

# CLOW ULFM - AWWA R/W VALVE

## Features and Benefits

DELTRIN THRUST BEARINGS ABOVE AND BELOW THE THRUST COLLAR REDUCE FRICTION AND MINIMIZE OPERATING TORQUES.

ELECTRO-PLATED NUTS AND BOLTS PROVIDE LONG-LIFE CORROSION PROTECTION.

LONG, TROUBLE FREE LIFE WITH HIGH STRENGTH, NON-CORRO-SIVE BRONZE STEM AND STEM NUT.

100% COATED WEDGE ENSURES BUBBLE-TIGHT SEAL EVERY TIME UP TO 250 PSI. WITH TWIN SEAL DESIGN.

SMOOTH, UNOBSTRUCTED WATERWAY IS FREE OF POCKETS, CAVITIES, AND DEPRESSIONS ALLOWING FOR MINIMAL FLOW LOSS AND LOWER PUMPING COSTS. ALL VALVES ACCEPT FULL SIZE TAPPING CUTTER.

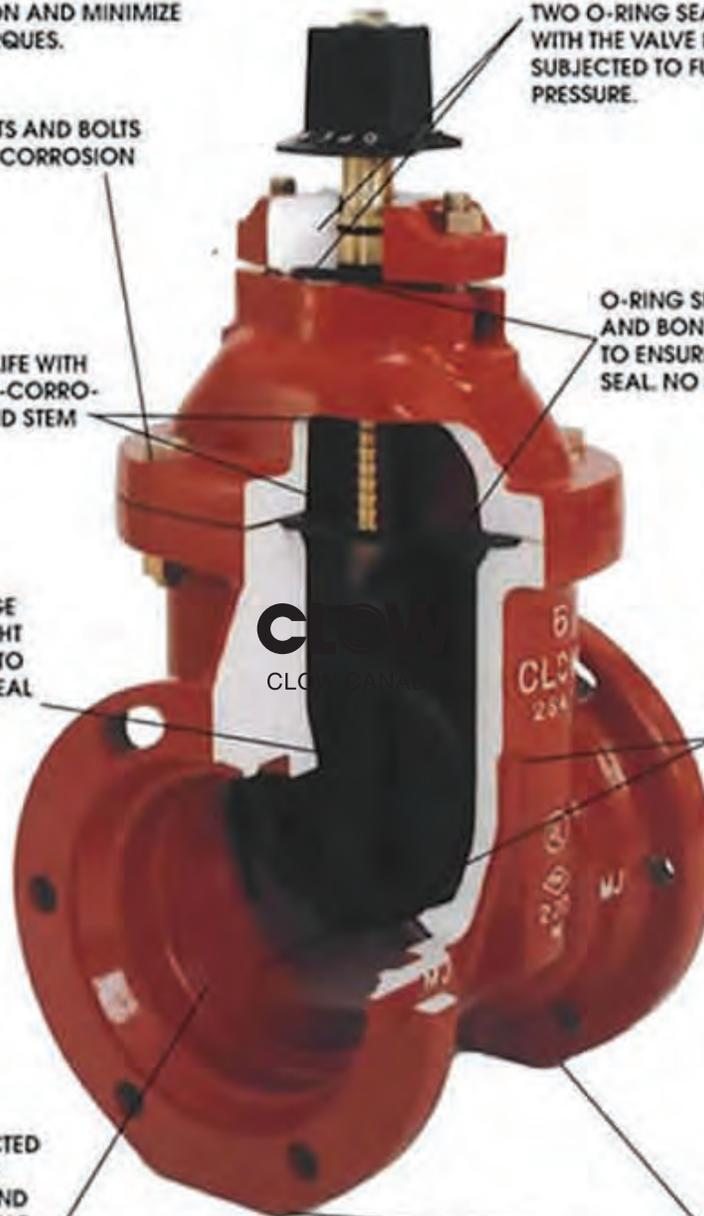
ALL VALVES ARE RATED AT 250 PSI FOR AWWA SERVICE AND 200 PSI FOR ULFM SERVICE. ALL VALVES ARE HYDROSTATICALLY TESTED TO 500 PSI.

TWO O-RING SEALS ARE REPLACEABLE WITH THE VALVE FULLY OPEN AND SUBJECTED TO FULL-RATED WORKING PRESSURE.

O-RING SEALS AT STUFFING BOX AND BONNET TO BODY FLANGES TO ENSURE THE BEST POSSIBLE SEAL. NO FLAT GASKETS.

CLOW CORROSION RESISTANT FUSION-BONDED EPOXY COATING, CONFORMING TO AWWA C-550 AND NSF61 APPROVED, PROTECTS BOTH INSIDE AND OUTSIDE OF VALVE.

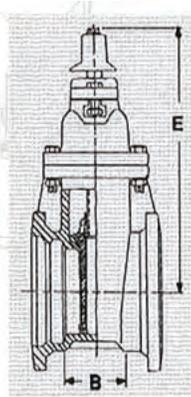
PADS ON THE BOTTOM OF ALL VALVES KEEP VALVE IN UPRIGHT POSITION FOR EASIER STORAGE AND PROTECTION FROM THE ELEMENTS.



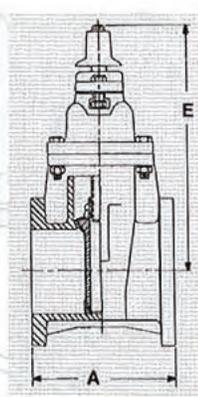
**CLOW**  
CLOW CANADA



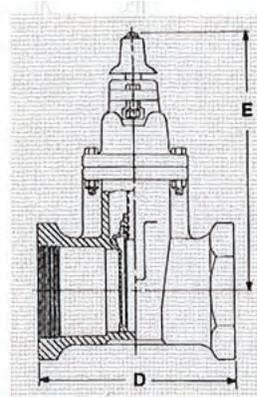
**AVAILABLE END CONNECTIONS & DIMENSIONS FOR CLOW  
2" - 12" C509 RESILIENT WEDGE VALVE (dimensions on following page)**



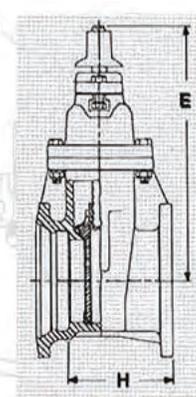
**F-6100  
MECHANICAL  
JOINT  
2" - 12"**



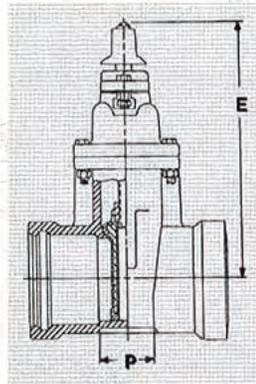
**F-6102  
FLANGED  
2" - 12"**



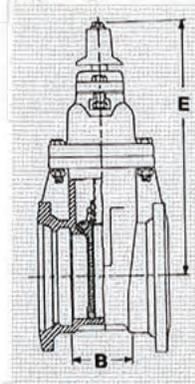
**F-6103  
THREADED  
ENDS  
2" - 3"**



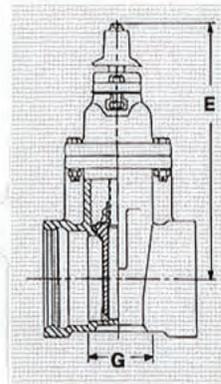
**F-6106  
FLGD. & MECH.  
JT.  
3" - 12"**



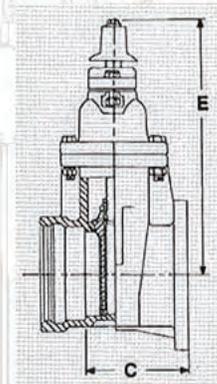
**F-6110  
PUSH ON FOR  
SDR PVC  
2" - 8"**



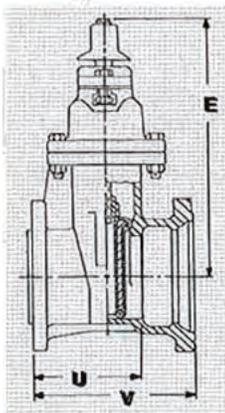
**F-6111  
MECHANICAL  
CUTTING  
IN JOINT  
4" - 12"**



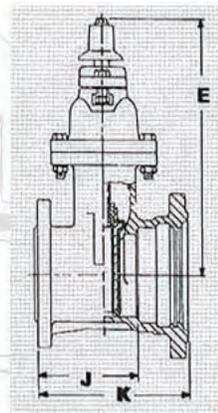
**F-6112  
TYTON ENDS  
FOR DUCTILE  
IRON AND C900  
PVC PIPE  
4" - 12"**



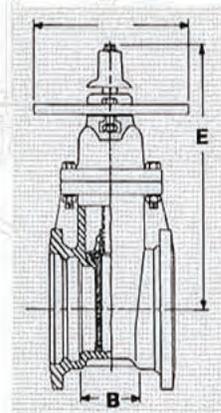
**F-6113  
FLANGED &  
TYTON  
4" - 12"**



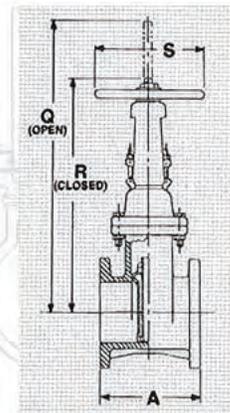
**F-6114  
MECH. JT. FOR  
TAPPING  
4" - 12"**



**F-6115  
TYTON FOR  
TAPPING  
4" - 8"**



**F-6120  
MECH. JOINT  
INDICATOR POST  
VALVE  
2" - 12"**



**F-6136  
FLGD. OS & Y  
CONSTRUCTION  
2 1/2" - 12"**





## C509 DIMENSIONS

Model 2639 / 2640

Size	A	B	C	D	E	G	H	J	K	P	Q	R	S	U	V	No. of Turns to Full Open
2"	7	3 1/4	-	5 1/4	10 7/8	-	-	-	-	3	-	-	7 1/4	-	-	4 3/4
2 1/2"	7 1/2	-	-	7	11 3/8	-	-	-	-	3 1/4	16 3/8	13 7/8	7 1/4	-	-	5 1/2
3"	8	3 1/2	-	7 1/8	12 3/8	-	5 3/4	-	-	3 1/2	18 7/8	15 5/8	10	-	-	10
4"	9	4 1/2	6 3/4	-	14 3/4	4 1/2	6 3/4	6 3/4	10 3/8	4 1/2	22 3/4	18 1/4	10	6 3/4	9 1/4	13 1/2
6"	10 1/2	5 1/2	7 7/8	-	19	5 1/4	7 3/4	8 1/4	12	5	30 1/8	23 3/4	12	8	10 1/2	19 1/2
8"	11 1/2	8 1/2	8 1/2	-	22 1/2	5 5/8	9 3/4	8 1/2	12 3/4	5 1/2	37 3/4	29 1/4	14	10 3/4	13 1/4	25 1/2
10"	13	10 1/2	10	-	26 1/2	7	11 3/4	-	-	-	45 3/4	35 3/8	18	11 3/4	14 1/4	31 1/2
12"	14	10 3/4	11 1/4	-	30	8 1/2	12 3/8	-	-	-	53 1/8	40 3/8	18	12 3/8	15	37 3/4

EMCO Corporation Waterworks is not responsible for any errors and discrepancies in the products depicted herein. Information is provided directly from our suppliers.





M & H 4500

- AWWA Class 150-B Butterfly Valves
- Suggested Specifications: 4" Thru 24"
- Butterfly Valves with Operator
- Specifications by Body Type & Operator

#### A. GENERAL

All butterfly valves shall be of the rubber-seated tight-closing type. They shall meet or exceed AWWA Standard C504. All valves shall be M&H 4500 butterfly valves, or approved equal.

Both valve ends shall be mechanical-joint (or other, as available) per AWWA Standard C111. Accessories (bolts, glands, and gaskets) shall be supplied by the valve manufacturer.

All valves must use full AWWA C504 Class 150B valve shaft diameter, and full C class 150 B underground-service-operator torque rating throughout entire travel, to provide capability for operation in emergency service.

#### B. VALVE

Valve body shall be high-strength cast iron ASTM A126 Class B with 18-8 Type 304 stainless steel body seat. Valve vane shall be high-strength cast iron ASTM A48 Class 40, having rubber seat mechanically secured with an integral 18-8 stainless steel clamp ring and 18-8 stainless steel self-locked screws.

Rubber seat shall be a full-circle 360° seat not penetrated by the valve shaft. For valves 4"-12" the valve shaft shall be one piece, extending full size through the entire valve.

For 14" and larger, valve shaft shall be 18-8 stainless steel stub shaft design keyed to the vane with stainless steel taper pins.

##### Body Type

All butterfly valves shall be of the rubber-seated tight-closing type. They shall meet or exceed AWWA Standard C504. All valves shall be M&H butterfly valves, or approved equal.

Valve ends shall be: (Select desired)

Wafer Type Body - Suitable for installation between 125# or 150# ASA flanges. (Available 4" thru 20")

Flanged - Short body valves per Table 2 of AWWA Spec. C504. Flanges shall be 125# ANSI. (Available all sizes.) Also flanged by AC ends in 6", 8" and 12" sizes, and flanged by MJ in 6", 8", 12" and 16" sizes.

Mechanical Joint - Both ends of valve shall be "MJ" per AWWA C111. "MJ" accessories (bolts, glands, gaskets) must be supplied by valve manufacturer. (Available all sizes-also flanged by MJ in 6", 8", 12" and 16" sizes.)

#### C. OPERATOR

##### Underground

Valve operator shall be of the traveling-nut type, sealed, gasketed, and lubricated for underground service. It shall be capable of withstanding an overload input torque of 450 ft. lbs. at full-open or -closed position without damage to the valve or valve operator. It shall be designed for submergence in water to 25ft. head pressure for up to 72 hours. Number of turns to operate valve shall be as listed below in order to closely resemble conventional distribution valve practices; and to minimize water hammer.



Pipe and Valve Size	Turns to Close
4"-6"	16-1/2
8"	24
10"-12"	36
14"-16"	48
18"-20"	72
24"	72

Valve shall be capable of easy closure by one man using standard valve key, even under emergency line-break conditions as severe as those that would cause a valve maximum opening torque requirement of as much as two times AWWA Class 150B.

All valves shall open left(right), and be equipped with 2" AWWA operating nut.

Crank, Handwheel or Chainwheel - All manual operators for service other than underground shall have position indicator and shall be totally enclosed and permanently lubricated. In any event, a maximum pull of 80 lbs. on the crank or wheel shall produce full Table 1 output torque throughout entire travel. Operators shall accept 300 lbs. pull on crank or wheel at full-open and closed positions without damage to valve or operator. Operators shall be of the "Traveling-Nut" type. All valves shall open left (clockwise to close.)

Cylinder - Cylinder operator shall be of the base mounted configuration. Cylinder barrel shall be of molybdenum-disulfide lined glass fiber reinforced epoxy tubing, to provide a corrosion-free, self-lubricated high strength barrel. Rod seal shall be of urethane, molybdenum-disulfide filled, to provide a self-lubricated, long life seal.



- Style 1450
- Butterfly Valves
- Suggested Specifications
- (30"-48")



## A. GENERAL

All Butterfly valves shall be of the rubber-seated tight-closing type designed, manufactured and tested in conformance to AWWA Standard C-504, latest revision. All valves shall be M&H Style 1450 Butterfly Valves, or approved equal.

## B. VALVE

Valve Body shall be high strength cast iron ASTM A-126, Class B, with 18-8 Stainless Steel Body Seat. Valve Vane (Disc) shall be of cast or ductile iron, ASTM A-536, Grade 65-45-12 having rubber seat mechanically secured with a serrated 18-8 Stainless Steel Clamp Ring and 18-8 Stainless Steel self-locked screws. Rubber Seat shall be a full-circle 360° seat not penetrated by the valve shaft. The vane shall be of a "Flow-Through" design incorporating three integral flow passages, in order to provide low flow resistance and assurance of high quality. Valve shafts shall be of two-piece stub shaft type, made of 18-8 Type 304 stainless steel with a diameter equal too or larger than specified for applicable valve class as defined by AWWA Standard C- 504, latest revision. Rubber Seats shall be capable of ready replacement or adjustment without the use of special tools. Shaft seals shall be of the "O-Ring" type.

## C. OPERATOR

The operator shall be of the traveling nut or worm gear type, self-locking in any position and sealed, gasketed and lubricated as needed.

All valves shall close by turning the operator nut or handwheel in a clock-wise direction (Open left). The operator shall be capable of meeting the torque requirements for opening and closing the valve against the pressure and flow rate specified.

For underground service, the minimum number of turns to close valve shall be no less than 2 turns per inch of valve size in order to minimize water hammer; and stops shall be provided capable of absorbing up to 450 foot-pounds of input torque without damage to the valve or operator.

For above-ground service, the operator shall provide position indication; and shall require no more than 80 pounds pull on the handwheel to provide necessary torque for specified pressure and flow rate.

Cylinder Operator shall meet all applicable provisions of AWWA Standard C-504, latest revision.

## D. END CONFIGURATIONS

Flanged-end valves shall be of the short-body type having 125# flanges conforming to ANSI B16-1. Mechanical joint end valves shall conform to AWWA Standard C-111 (ANSI B21.11). Mechanical joint bolts, glands and gaskets (shall)(shall not) be supplied by the valve manufacturer.

## E. TESTS

All valves shall be tested for leakage at rated pressure, and tested hydrostatically at two times rated pressure-all in conformance with AWWA Standard C-504, latest revision.



PROJECT	
OWNER	
CONTRACTOR	
DISTRIBUTOR	
CONSULTANT	

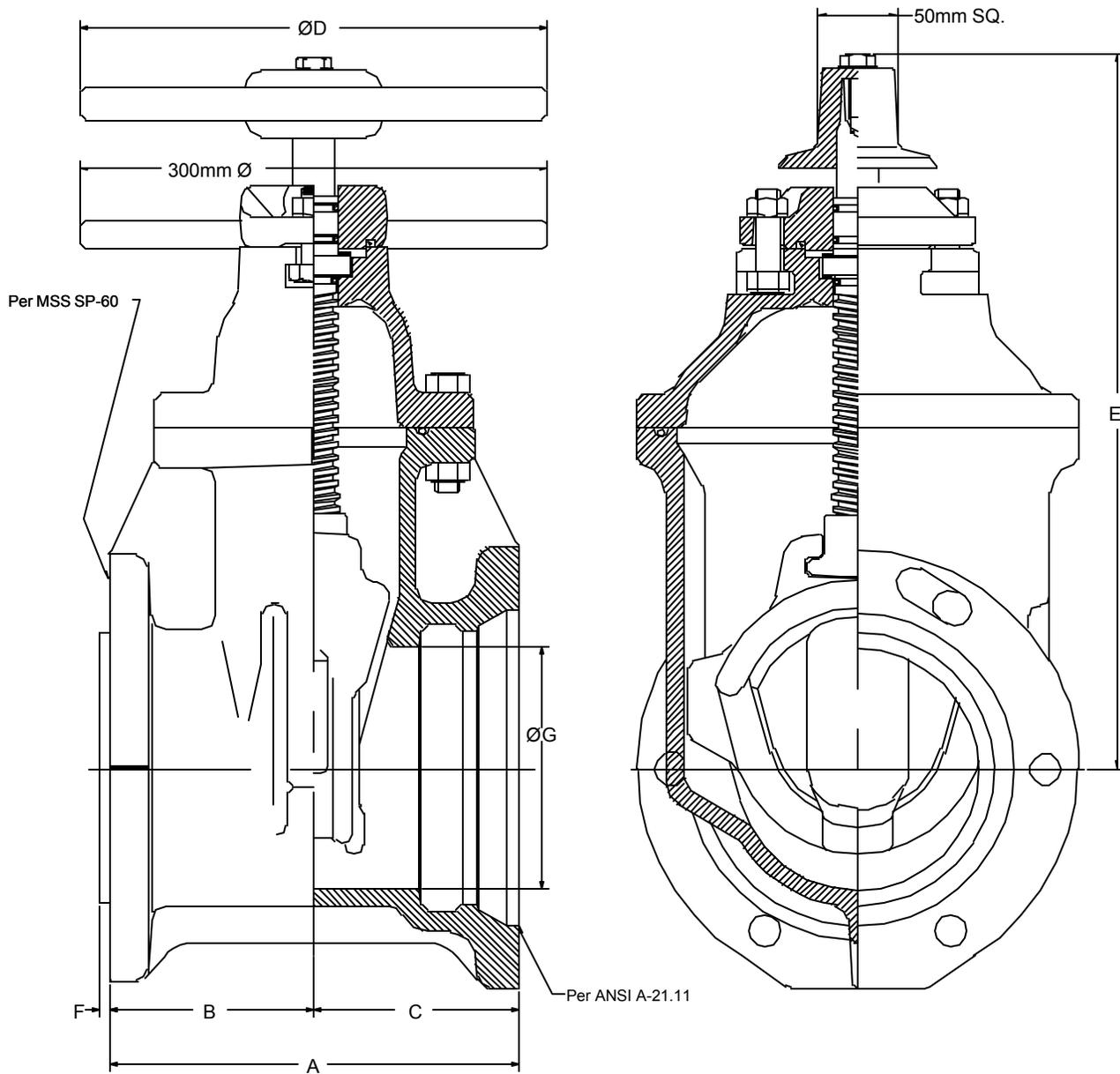
3"-12" R/W VALVE NRS TAP x  
MECHANICAL JOINT ENDS GENERAL  
DIMENSIONS

MODEL F6114

FUSION EPOXY - NSF 61 AND AWWA C550

COMPLIES WITH AWWA C509

**CLOW CANADA**



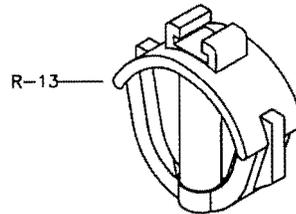
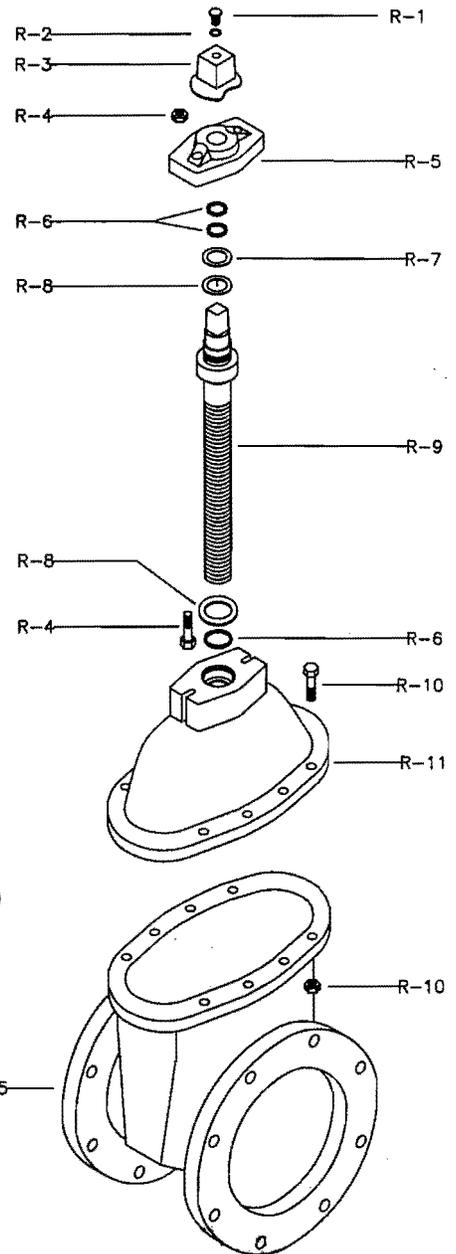
METRIC DIMENSIONS							
VALVE SIZE	A	B	C	D	E	F	G
75	210	100	108	250	315	6	75
100	235	115	120	250	375	6	108
150	265	133	133	300	480	7	160
200	335	145	190	350	570	7	210
250	315	165	195	450	675	7	260
300	380	175	200	450	760	7	310

2"-12" R/W VALVE FLANGED ENDS  
NRS ASSEMBLY - EXPLOSION

**CLOW VALVE COMPANY**

MODEL 2639 & 2640

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



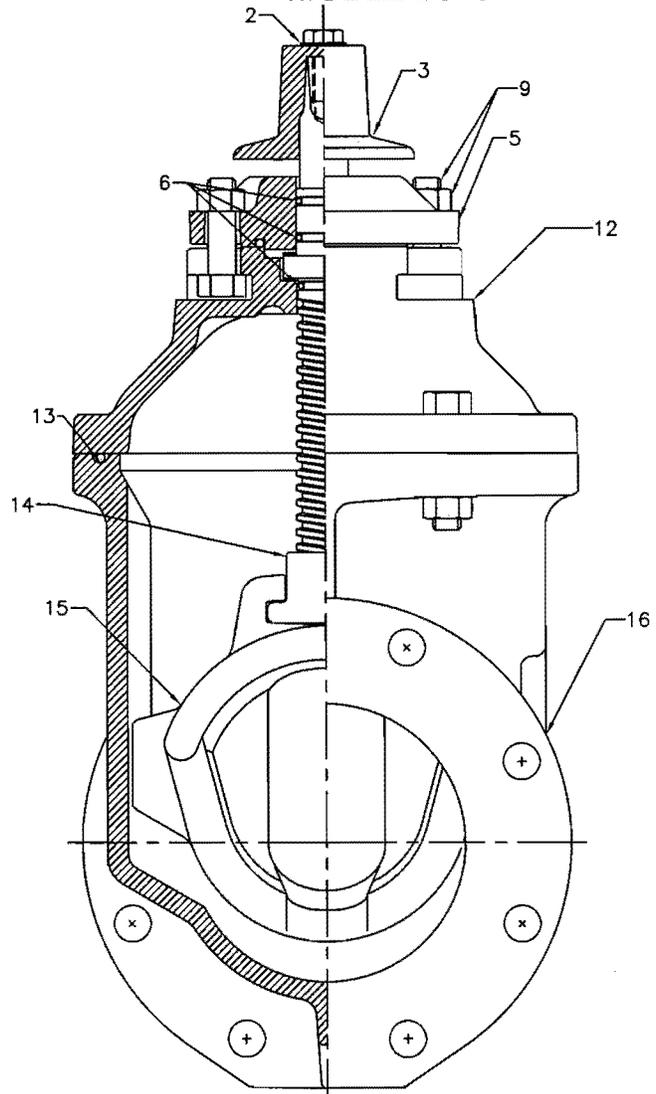
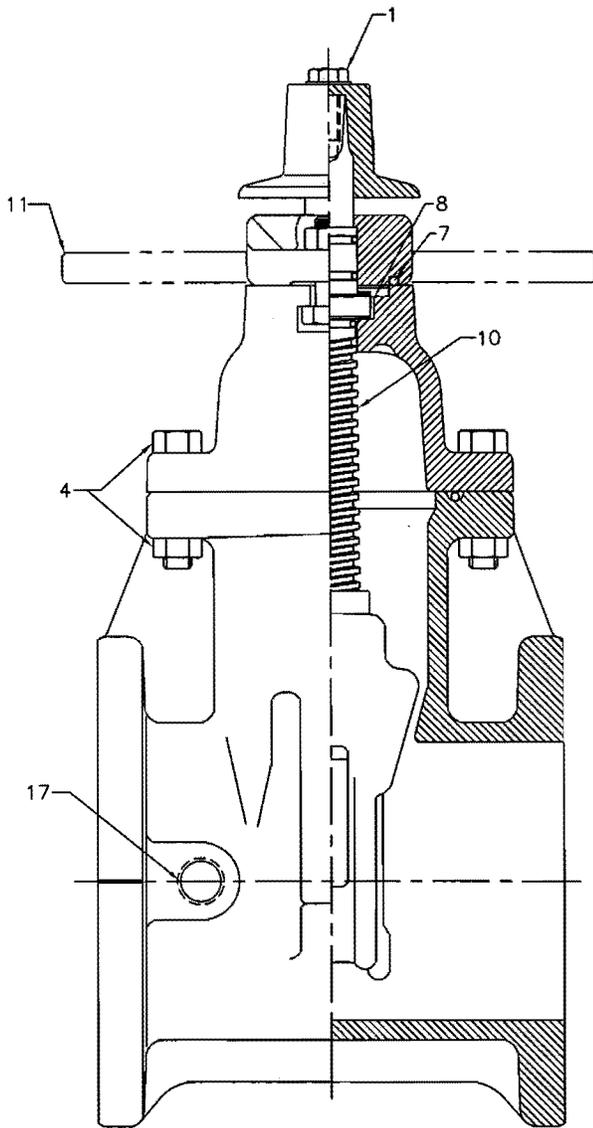
ITEM NO.	QTY.	DESCRIPTION	2639	MATERIAL
R-1	1	HOLD DOWN BOLT		ZINC CHROMATE PLATED STEEL
R-2	1	HOLD DOWN BOLT WASHER		ZINC CHROMATE PLATED STEEL
R-3	1	SQ. OPERATING NUT OR HANDWHEEL (NOT SHOWN)		GRAY IRON
R-4	2	FOLLOWER PLATE BOLT& NUT		ZINC CHROMATE PLATED STEEL
R-5	1	FOLLOWER PLATE		DUCTILE IRON
R-6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

Complies with applicable requirements of AWWA C509

2"-12" R/W VALVE  
MATERIAL LIST

**CLOW VALVE COMPANY**

MODEL 2640

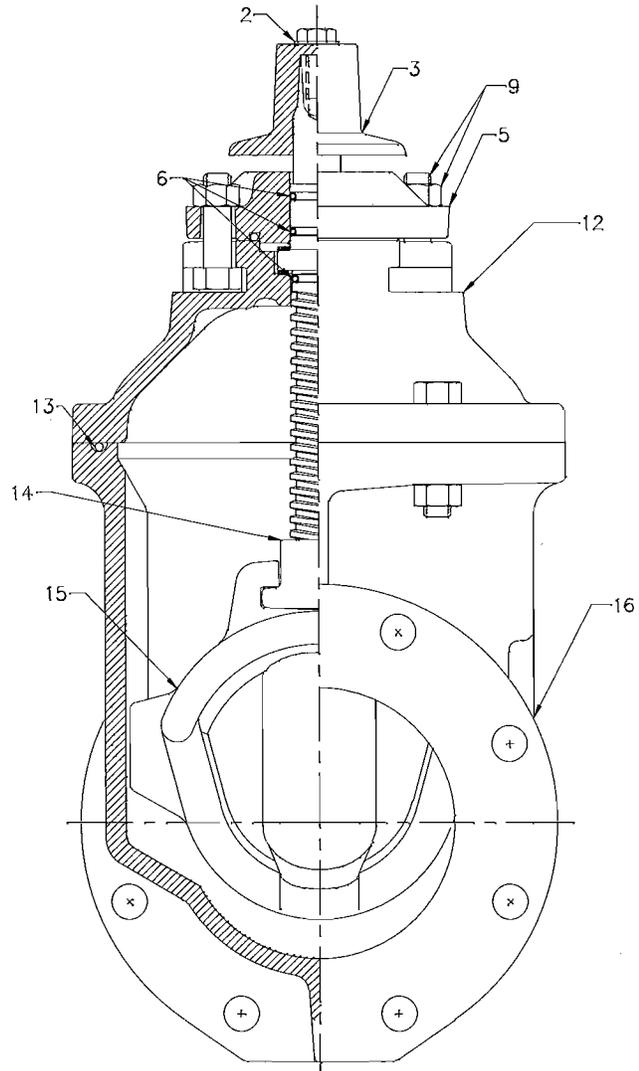
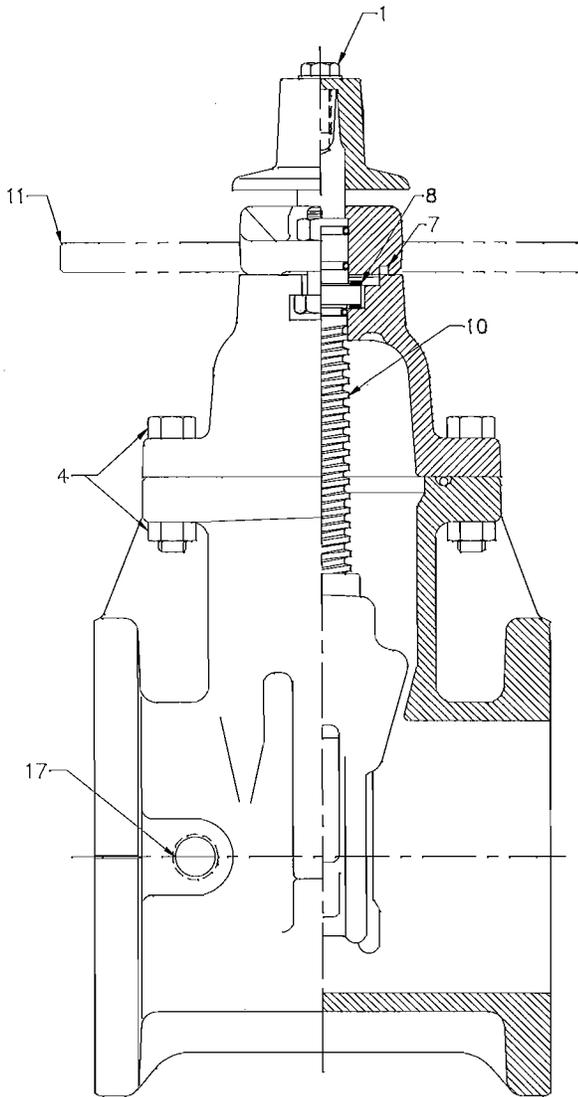


ITEM	DESCRIPTION	MATERIAL	ASTM SPEC.
1	Hex Head Bolt	Stainless Steel	ASTM F593 304 SST
2	Flat Washer	Stainless Steel	304 SST
3	Operating Nut	Gray Iron	ASTM A126 CI B
4	Hex Head Bolts & Nuts	Stainless Steel	ASTM F593/4 304 SST
5	Follower Plate	Gray Iron	ASTM A126 CI B
6	Stem O-Ring	EPDM	-----
7	Follower Plate O-Ring/gasket	EPDM	-----
8	Thrust Washer Bearing	Delrin	-----
9	Hex Head Bolts & Nuts	Stainless Steel	ASTM F593/4 304 SST
10	Stem	Bronze	ASTM B584 C86700
11	Indicator Post Plate (Optional 3-12")	Gray Iron	ASTM A126 CI B
12	Cover	Gray Iron	ASTM A126 CI B
13	Cover O-Ring	EPDM	-----
14	Stem Nut	Bronze	ASTM B584 C83600
15	Wedge	Gray Iron & EPDM	ASTM A126 CI B
16	Body - all types	Gray Iron	ASTM A126 CI B
17	Pipe Plug (Optional Some Styles)	Stainless Steel	-----

Complies with applicable requirements of AWWA C509

2"-12" R/S VALVE  
MATERIAL LIST  
**CLOW VALVE COMPANY**

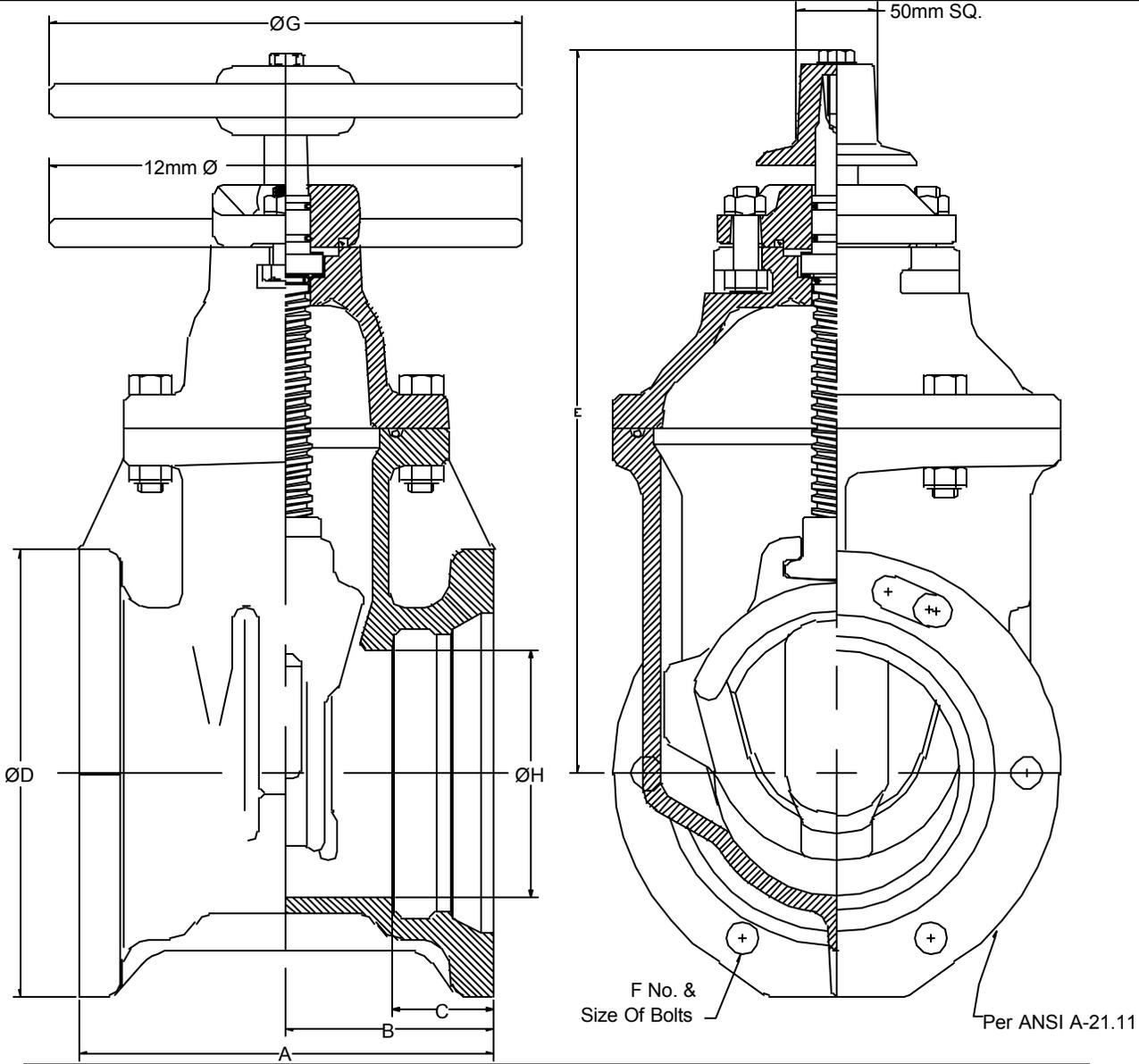
MODEL 2639



ITEM	DESCRIPTION	MATERIAL	ASTM SPEC.
1	Hex Head Bolt	Stainless Steel	ASTM F593 304 SST
2	Flat Washer	Stainless Steel	304 SST
3	Operating Nut	Gray Iron	ASTM A126 CI B
4	Hex Head Bolts & Nuts	Stainless Steel	ASTM F593/4 304 SST
5	Follower Plate	Ductile Iron	ASTM A536 65-45-12
6	Stem O-Ring	EPDM	-----
7	Follower Plate O-Ring/gasket	EPDM	-----
8	Thrust Washer Bearing	Delrin	-----
9	Hex Head Bolts & Nuts	Stainless Steel	ASTM F593/4 304 SST
10	Stem	Bronze	ASTM B584 C86700
11	Indicator Post Plate (Optional 3-12")	Gray Iron	ASTM A126 Class B
12	Cover	Ductile Iron	ASTM A536 65-45-12
13	Cover O-Ring	EPDM	-----
14	Stem Nut	Bronze	ASTM B584 C83600
15	Wedge	Gray Iron & EPDM	ASTM A126 CI B
16	Body - all types	Ductile Iron	ASTM A536 65-45-12
17	Pipe Plug (Optional Some Styles)	Stainless Steel	-----

PROJECT		<b>2"-12" R/W VALVE MECHANICAL JOINT ENDS GENERAL DIMENSIONS</b>  <b>MODEL F6100</b>  <b>FUSION EPOXY - NSF 61 AND AWWA C550</b>  <b>COMPLIES WITH AWWA C509</b>
OWNER		
CONTRACTOR		
DISTRIBUTOR		
CONSULTANT		

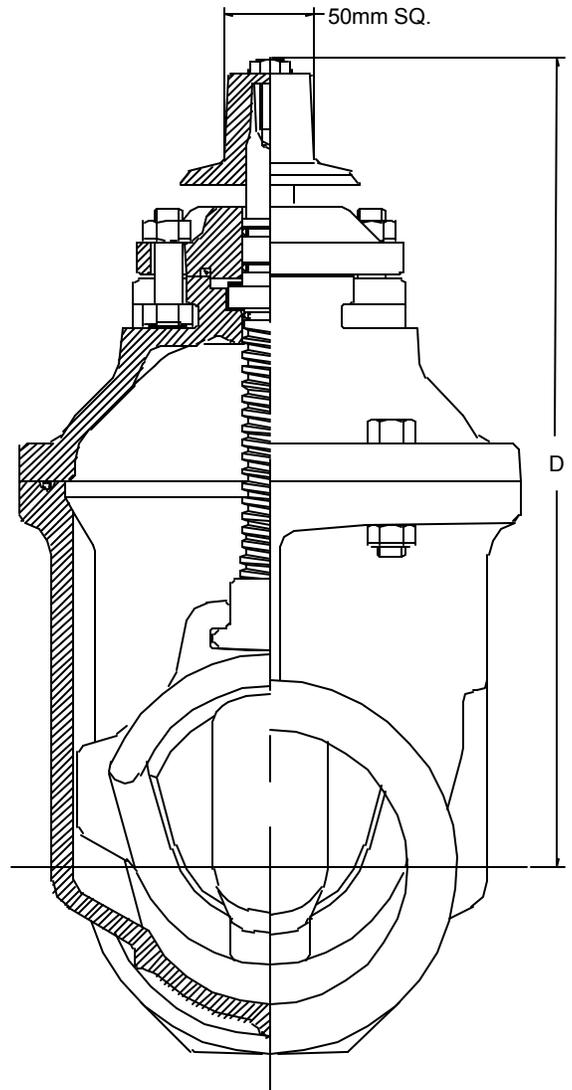
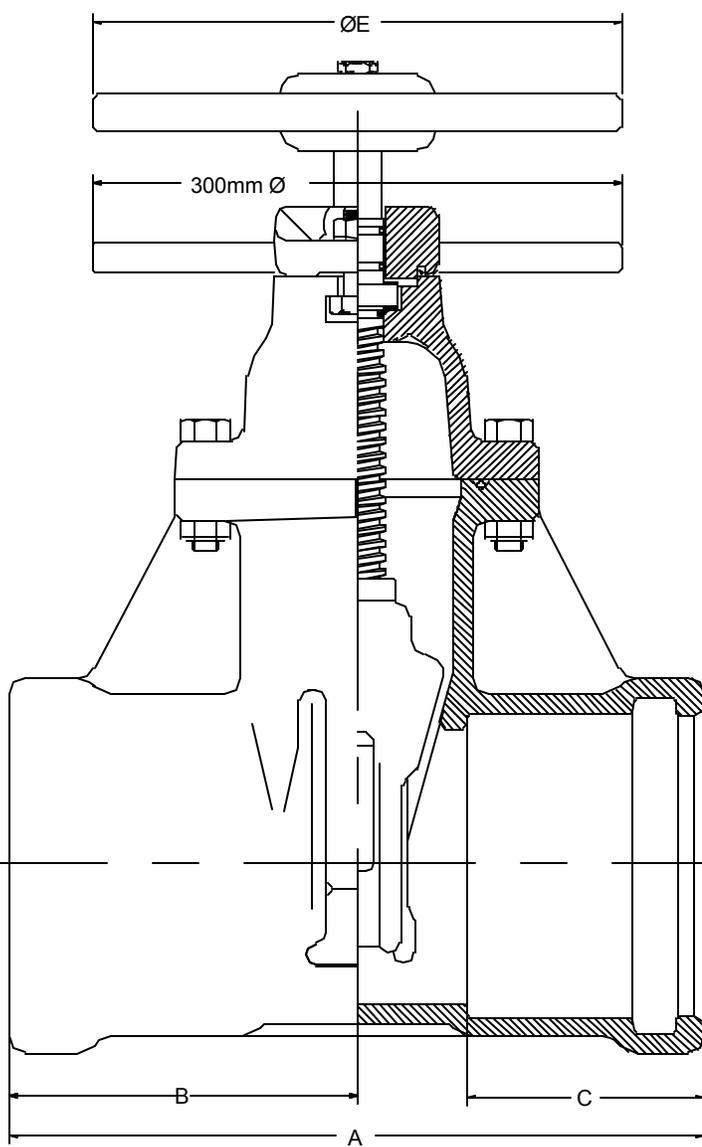
**CLOW CANADA**



METRIC DIMENSIONS								
VALVE SIZE	A	B	C	D	E	F	G	H
50	210	105	62.5	115	275	4-5/8	185	50
62.5	—	—	—	—	—	—	—	—
75	215	108	62.5	195	315	4-5/8	250	75
100	240	120	62.5	230	375	4-3/4	250	110
150	265	130	62.5	290	480	6-3/4	300	160
200	335	165	62.5	350	520	6-3/4	350	210
250	395	195	62.5	400	670	8-3/4	450	260
300	405	200	67	455	750	8-3/4	450	310

PROJECT	
OWNER	
CONTRACTOR	
DISTRIBUTOR	
CONSULTANT	
<b>CLOW CANADA</b>	

50mm - 200mm R/W VALVE PVC ENDS NRS GENERAL DIMENSIONS
MODEL F6110
FUSION EPOXY - NSF 61 AND AWWA C550
COMPLIES WITH AWWA C509

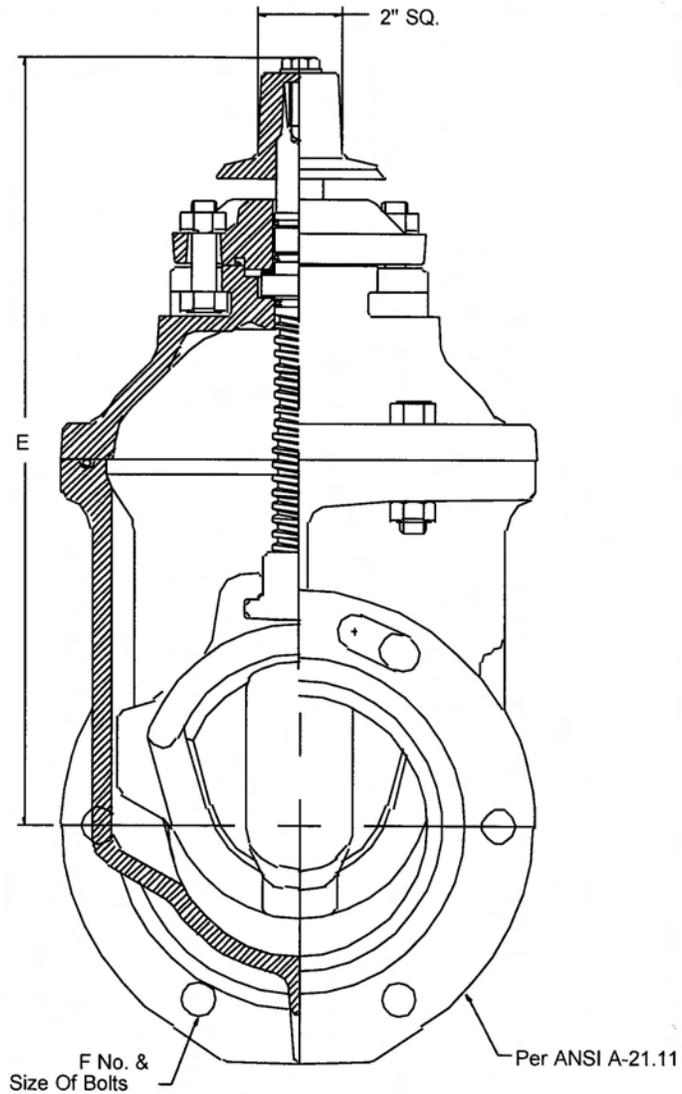
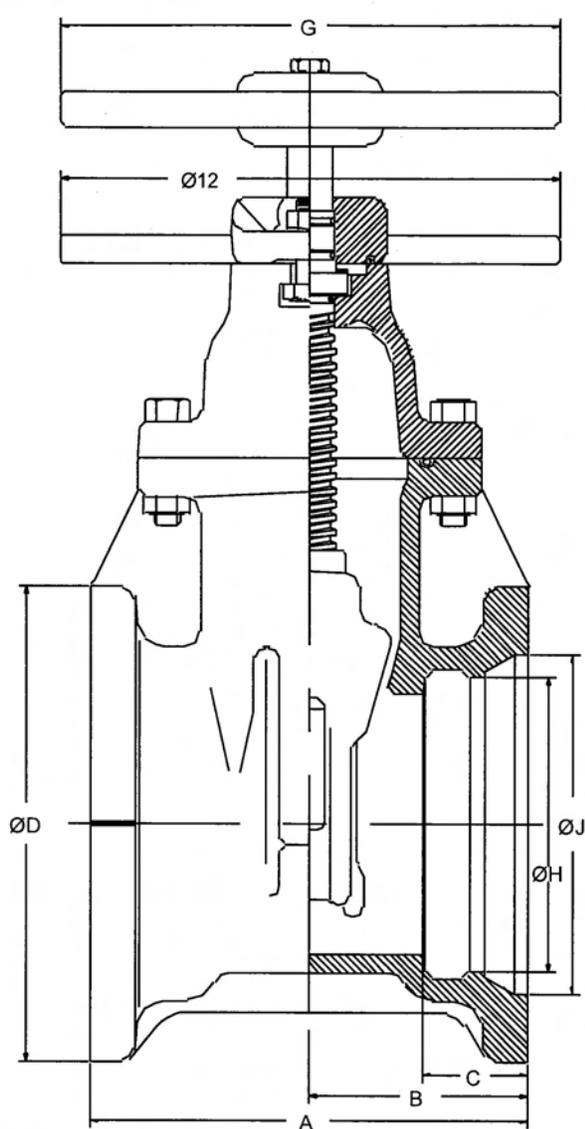


<b>METRIC DIMENSIONS</b>					
VALVE SIZE	A	B	C	D	E
50	250	127	90	275	185
62.5	270	135	95	290	185
75	295	145	105	315	250
100	340	170	115	375	250
150	400	200	135	480	300
200	410	205	135	570	350

PROJECT	
OWNER	
CONTRACTOR	
DISTRIBUTOR	
CONSULTANT	

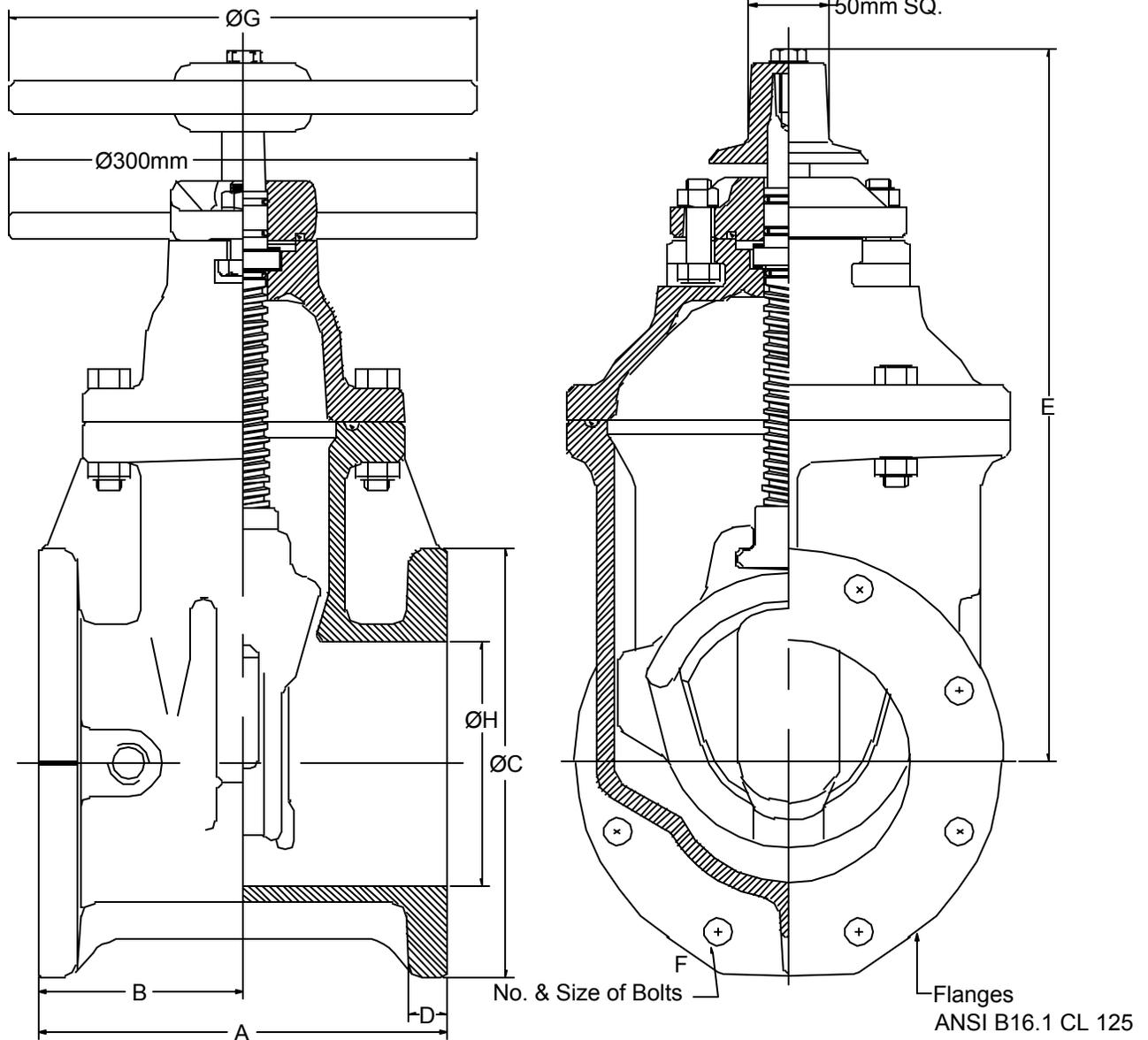
4"-12" RW VALVE MECHANICAL CUT JOINT  
 ENDS  
 GENERAL DIMENSIONS  
 MODEL F6111  
 FUSION EPOXY - NSF 61 AND AWWA C550  
 COMPLIES WITH AWWA C509

**CLOW CANADA**



METRIC DIMENSIONS									
VALVE SIZE	A	B	C	D	E	F	G	H	J
100 (4")	241	121	64	232	375	4-3/4	250	130	157
150 (6")	267	134	64	283	483	6-3/4	300	183	211
200 (8")	333	167	64	350	572	6-3/4	350	239	267
250 (10")	394	197	64	400	673	8-3/4	450	292	320
300 (12")	406	203	67	457	762	8-3/4	450	345	374

PROJECT		<b>2"-12" R/W VALVE NRS FLANGED ENDS</b> <b>GENERAL DIMENSIONS</b>
OWNER		
CONTRACTOR		
DISTRIBUTOR		
CONSULTANT		
<b>CLOW CANADA</b>		<b>MODEL F6102</b> <b>FUSION EPOXY - NSF 61 AND AWWA C550</b> <b>COMPLIES WITH AWWA C509</b>



METRIC DIMENSIONS								
VALVE SIZE	A	B	C	D	E	F	G	H
50	180	90	150	16	275	4-5/8	185	50
62.5	190	95	180	18	290	4-5/8	185	62.5
75	200	100	190	19	315	4-5/8	250	75
100	230	115	230	23	375	8-5/8	250	108
150	265	130	280	25	480	8-3/4	300	160
200	290	145	140	28	570	8-3/4	350	210
250	330	165	400	30	670	12-7/8	450	260
300	350	180	480	32	750	12-7/8	450	310

PROJECT	
OWNER	
CONTRACTOR	
DISTRIBUTOR	
CONSULTANT	

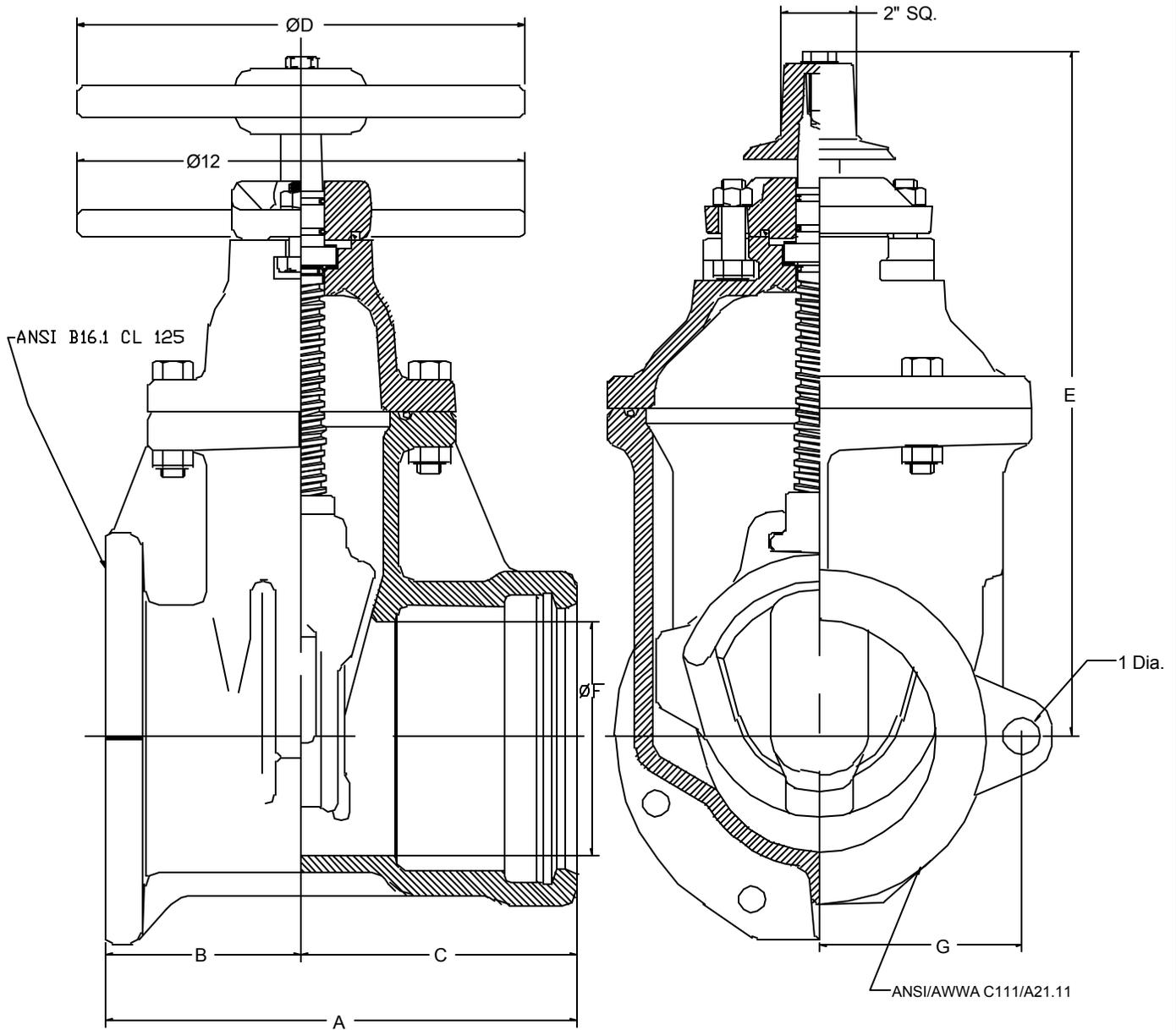
4"-12" RW VALVE NRS FLANGE x  
TYTON ENDS GENERAL DIMENSIONS

MODEL F6113

FUSION EPOXY - NSF 61 AND AWWA C550

COMPLIES WITH AWWA C509

**CLOW CANADA**



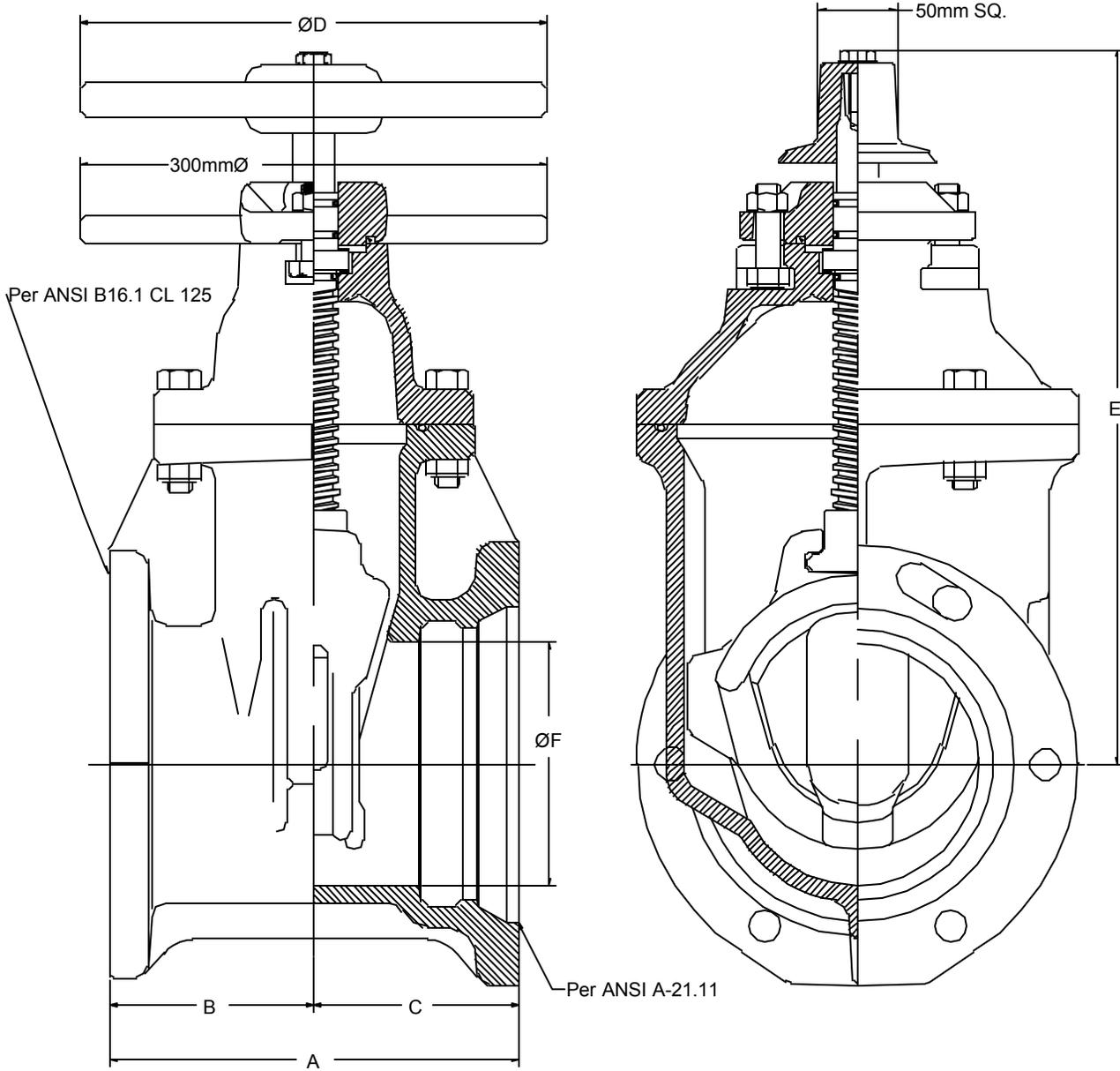
METRIC DIMENSIONS							
VALVE SIZE	A	B	C	D	E	F	G
75 (3")	210	100	108	250	315	75	---
100 (4")	283	115	168	250	375	108	104
150 (6")	320	134	188	300	483	159	138
200 (8")	365	146	218	350	572	210	164
250 (10")	410	165	246	450	673	260	202
300 (12")	443	178	265	450	762	310	234

PROJECT	
OWNER	
CONTRACTOR	
DISTRIBUTOR	
CONSULTANT	
<b>CLOW CANADA</b>	

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

MODEL F6106

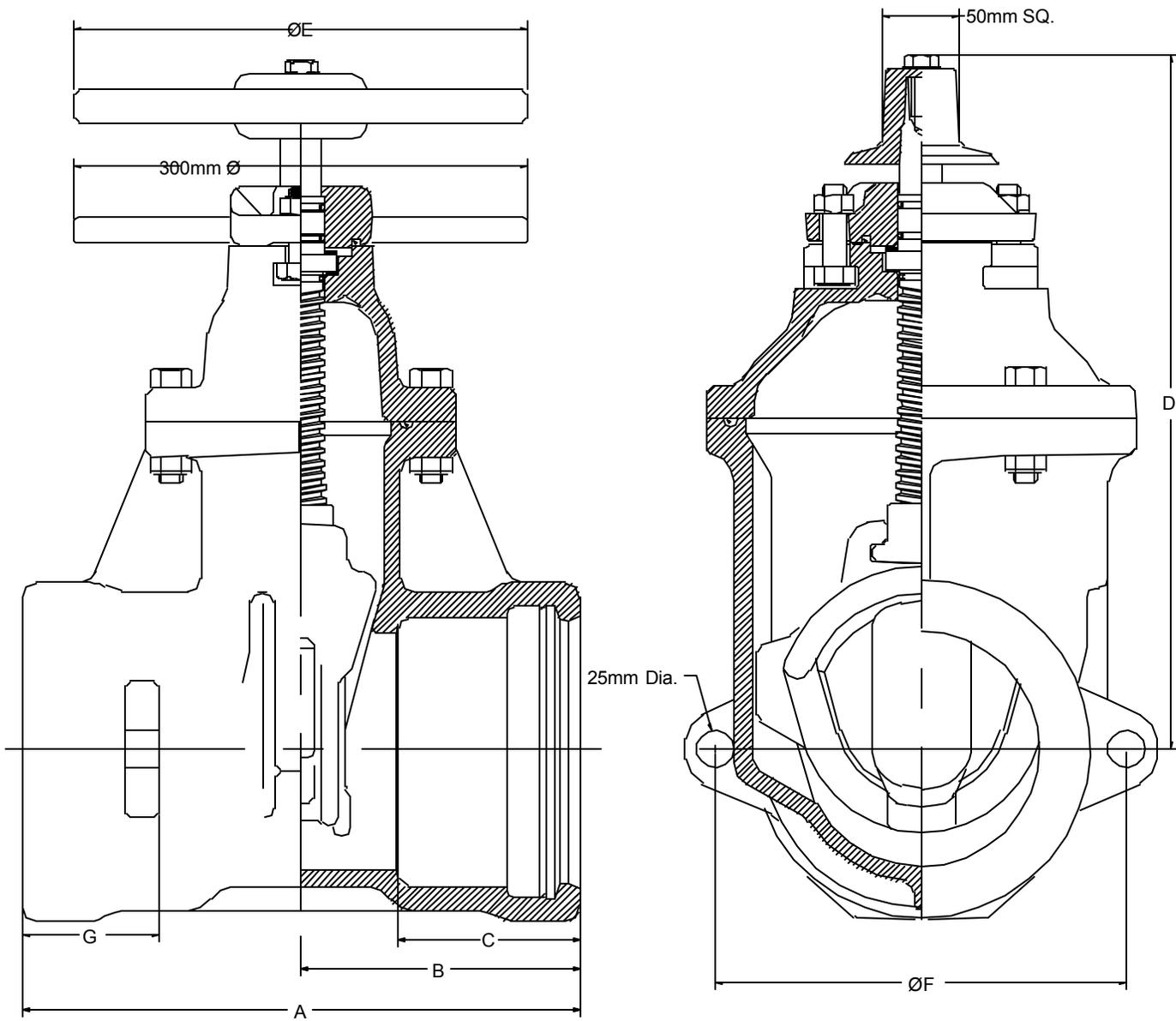
FUSION EPOXY - NSF 61 AND AWWA C550  
COMPLIES WITH AWWA C509



<b>METRIC DIMENSIONS</b>						
VALVE SIZE	A	B	C	D	E	F
75	210	100	108	250	315	75
100	235	115	120	250	375	108
150	265	133	133	300	480	160
200	313	145	165	350	570	210
250	362	165	195	450	675	260
300	380	175	200	450	760	310

PROJECT	
OWNER	
CONTRACTOR	
DISTRIBUTOR	
CONSULTANT	
<b>CLOW CANADA</b>	

4"-12" R/W VALVE TYTON ENDS NRS GENERAL DIMENSIONS
MODEL F6112
FUSION EPOXY - NSF 61 AND AWWA C550
COMPLIES WITH AWWA C509



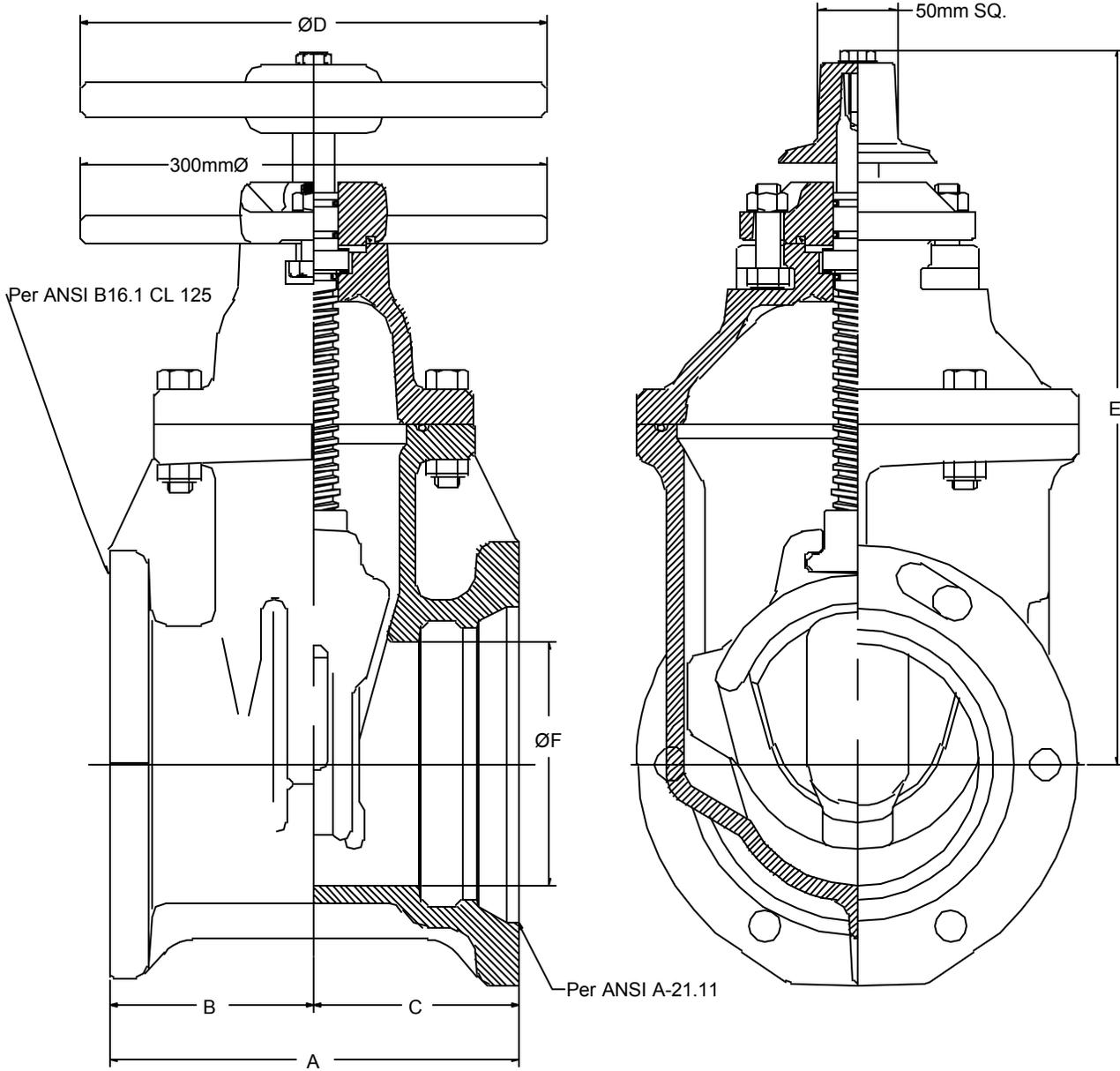
<b>METRIC DIMENSIONS</b>							
VALVE SIZE	A	B	C	D	E	F	G
100	335	165	110	375	250	210	95
150	375	185	120	480	300	275	95
200	435	215	145	570	350	325	115
250	490	245	155	670	450	405	130
300	530	265	155	760	450	470	135

PROJECT	
OWNER	
CONTRACTOR	
DISTRIBUTOR	
CONSULTANT	
<b>CLOW CANADA</b>	

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

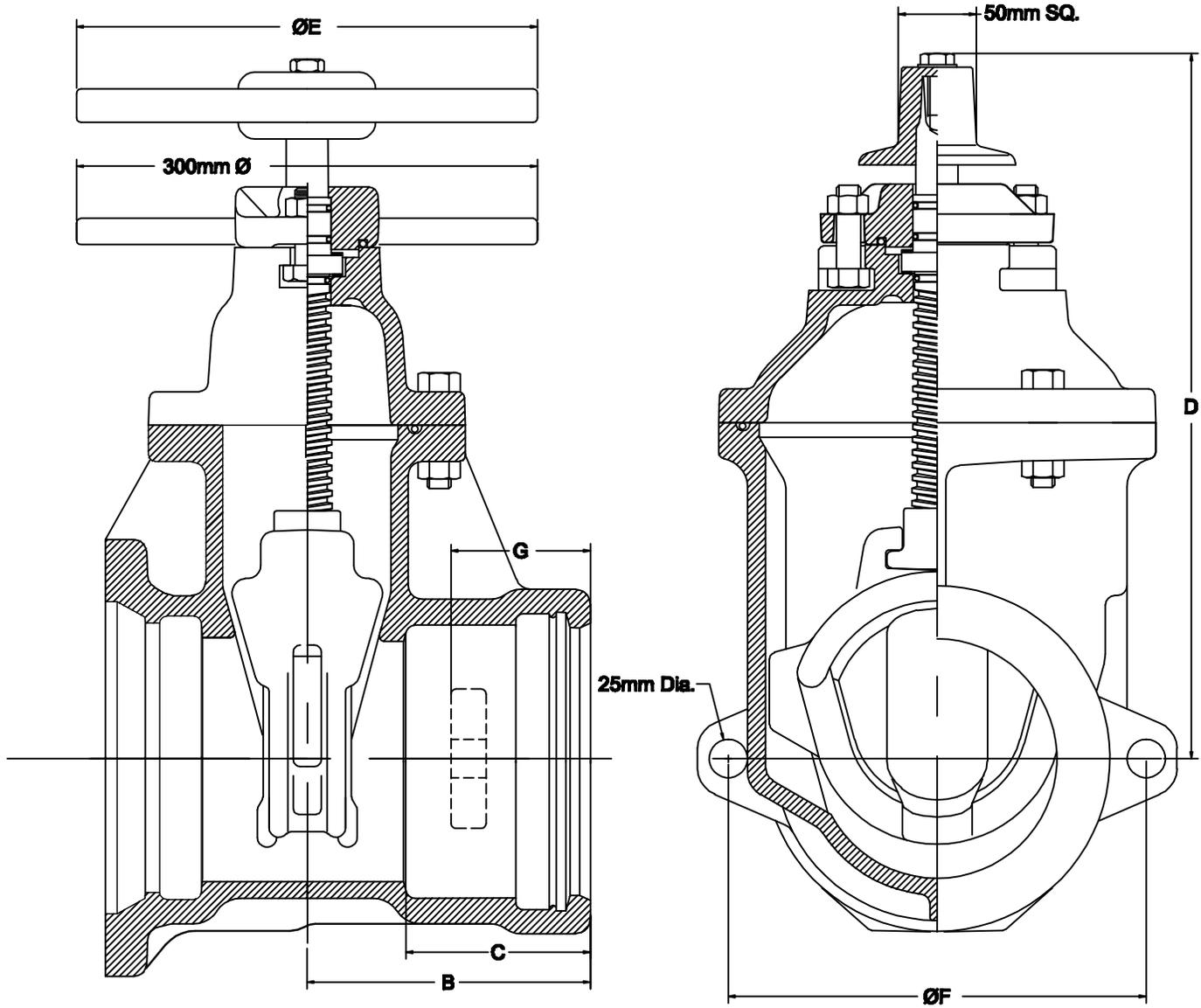
MODEL F6106

FUSION EPOXY - NSF 61 AND AWWA C550  
COMPLIES WITH AWWA C509



METRIC DIMENSIONS						
VALVE SIZE	A	B	C	D	E	F
75	210	100	108	250	315	75
100	235	115	120	250	375	108
150	265	133	133	300	480	160
200	313	145	165	350	570	210
250	362	165	195	450	675	260
300	380	175	200	450	760	310

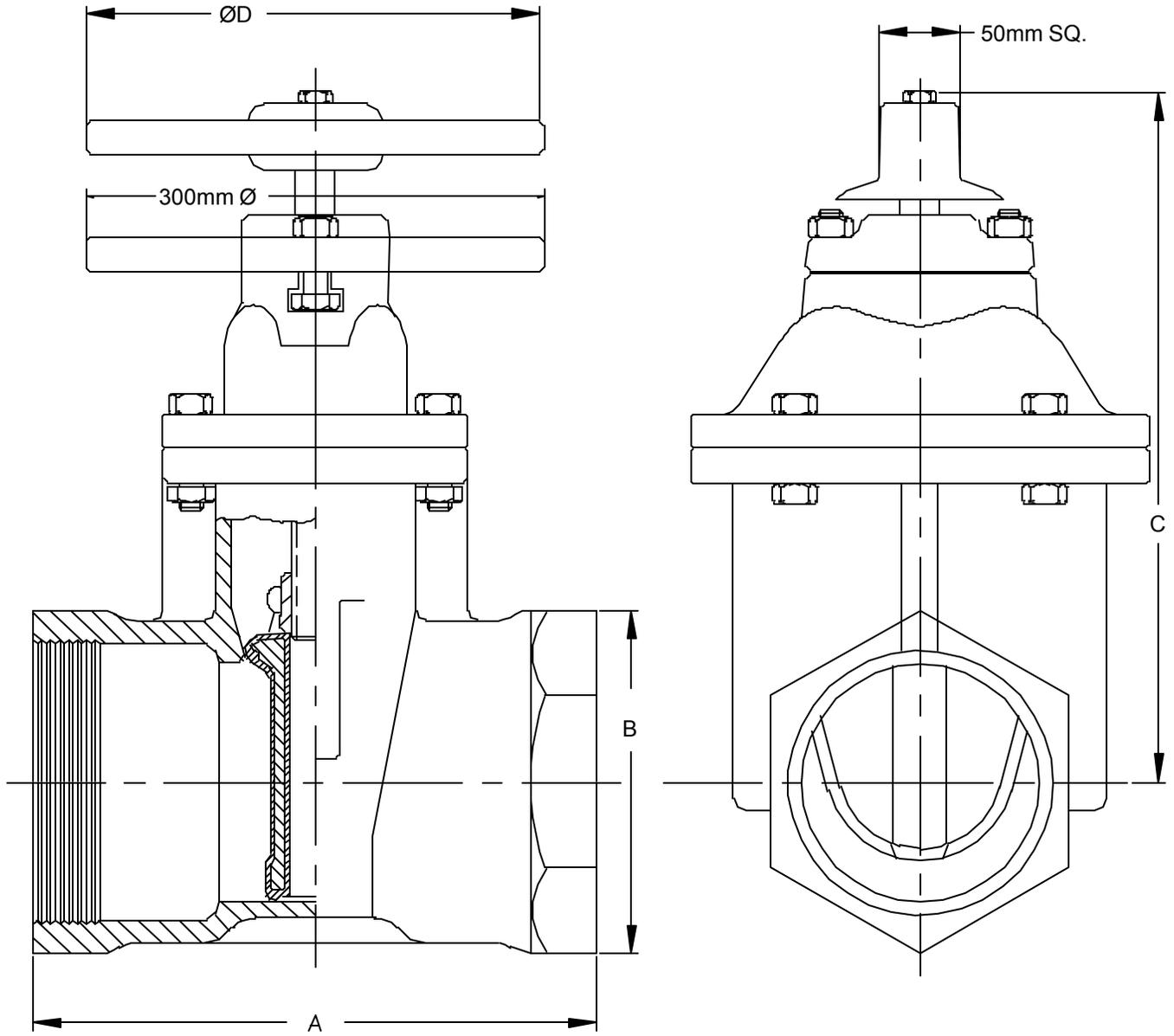
PROJECT	<b>4"-12" R/W VALVE TYTON x TAPPING</b> <b>NRS GENERAL DIMENSIONS</b> <b>MODEL F6115</b> <b>FUSION EPOXY - NSF 61 AND AWWA C550</b> <b>COMPLIES WITH AWWA C509</b>
OWNER	
CONTRACTOR	
DISTRIBUTOR	
CONSULTANT	
<b>CLOW CANADA</b>	



<b>METRIC DIMENSIONS</b>						
<b>VALVE SIZE</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
100	165	110	375	250	210	95
150	185	120	480	300	275	95
200	215	145	570	350	325	115
250	245	155	670	450	405	130
300	265	155	760	450	470	135

PROJECT	
OWNER	
CONTRACTOR	
DISTRIBUTOR	
CONSULTANT	
<b>CLOW CANADA</b>	

2"-3" R/W VALVE THREADED ENDS NRS GENERAL DIMENSIONS
MODEL F6103
FUSION EPOXY - NSF 61 AND AWWA C550 COMPLIES WITH AWWA C509



METRIC DIMENSIONS				
VALVE SIZE	A	B	C	D
50	133	105	275	185
62.5	175	130	290	185
75	180	140	315	250

**RESILIENT  
WEDGE VALVES**

**CLOW VALVE COMPANY**

**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 4"-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 2 1/2")	F-6100
FLG & M.J.	3"-12"	F-6106
Push-on for PVC (SDR)	2"-8"	F-6110
FLG End (OS & Y)	2 1/2"-12"	F-6136
M.J. for Tapping	4"-12"	F-6114
Tyton for D.I. & C900 PVC	4"-12"	F-6112
M.J. Cutting-in	4"-12"	F-6111
Push-on for D.I. X FLG	4"-12"	F-6113
Threaded	2"-3"	F-6103
Push-on for C.I. for Tapping	4"-8"	F-6115

**Accessories (Illustrated in the Gate Valve Section)**

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

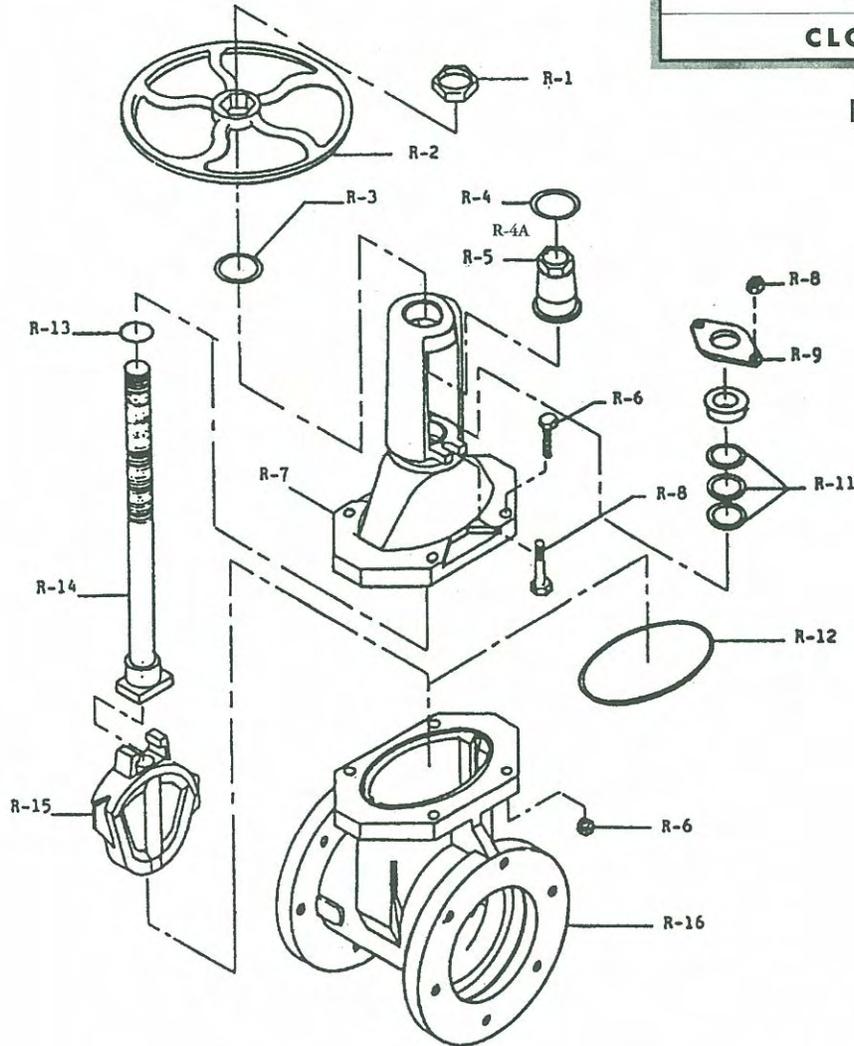
Floorstands (non-rising stem)

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

2 1/2"-12" R/WGATE VALVE  
OS&Y ASSEMBLY-EXPLOSION

CLOW VALVE COMPANY

MODEL 2639 & 2640



ITEM NO.	QTY.	DESCRIPTION	MATERIAL
R-1	1	HANDWHEEL HOLD DOWN NUT	BRONZE
R-2	1	HANDWHEEL	CAST IRON
R-3	1	UPPER THRUST WASHER (SIZES 3" THRU 12")	BRONZE
R-4	1	LOWER THRUST WASHER	BRONZE
R-4A	1	LOWER THRUST WASHER	DELTRIN
R-5	1	STEM TOP NUT	BRONZE
R-6	4	COVER BOLTS & NUTS (SIZES 2.5" THRU 6")	ZINC PLATED STEEL
R-6	8	COVER BOLTS & NUTS (SIZES 8" THRU 12")	ZINC PLATED STEEL
R-7	1	COVER	DUCTILE IRON
R-8	2	PACKING BOLTS	ZINC PLATED STEEL
R-8	2	PACKING BOLT NUTS	BRASS
R-9	1	GLAND FOLLOWER	CAST IRON
R-11	1	PACKING	SQ. BRAIDED POLYMER
R-12	1	COVER O-RING	NBR
R-13	1	STEM O-RING	NBR
R-14	1	STEM	BRONZE
R-15	1	WEDGE	CAST IRON & URETHANE RUBBER
R-16	1	BODY	DUCTILE IRON

ITEM NO.	QTY.	DESCRIPTION	MATERIAL
R-1	1	HANDWHEEL HOLD DOWN NUT	BRONZE
R-2	1	HANDWHEEL	CAST IRON
R-3	1	UPPER THRUST WASHER (SIZES 3" THRU 12")	BRONZE
R-4	1	LOWER THRUST WASHER	BRONZE
R-4A	1	LOWER THRUST WASHER	DELTRIN
R-5	1	STEM TOP NUT	BRONZE
R-6	4	COVER BOLTS & NUTS (SIZES 2.5" THRU 6")	ZINC PLATED STEEL
R-6	8	COVER BOLTS & NUTS (SIZES 8" THRU 12")	ZINC PLATED STEEL
R-7	1	COVER	CAST IRON
R-8	2	PACKING BOLTS	ZINC PLATED STEEL
R-8	2	PACKING BOLT NUTS	BRASS
R-9	1	GLAND FOLLOWER	CAST IRON
R-11	1	PACKING	SQ. BRAIDED POLYMER
R-12	1	COVER O-RING	NBR
R-13	1	STEM O-RING	NBR
R-14	1	STEM	BRONZE
R-15	1	WEDGE	CAST IRON & URETHANE RUBBER
R-16	1	BODY	CAST IRON

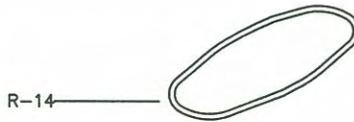
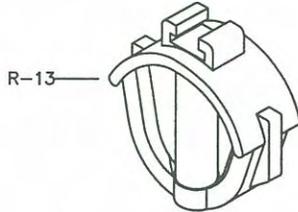
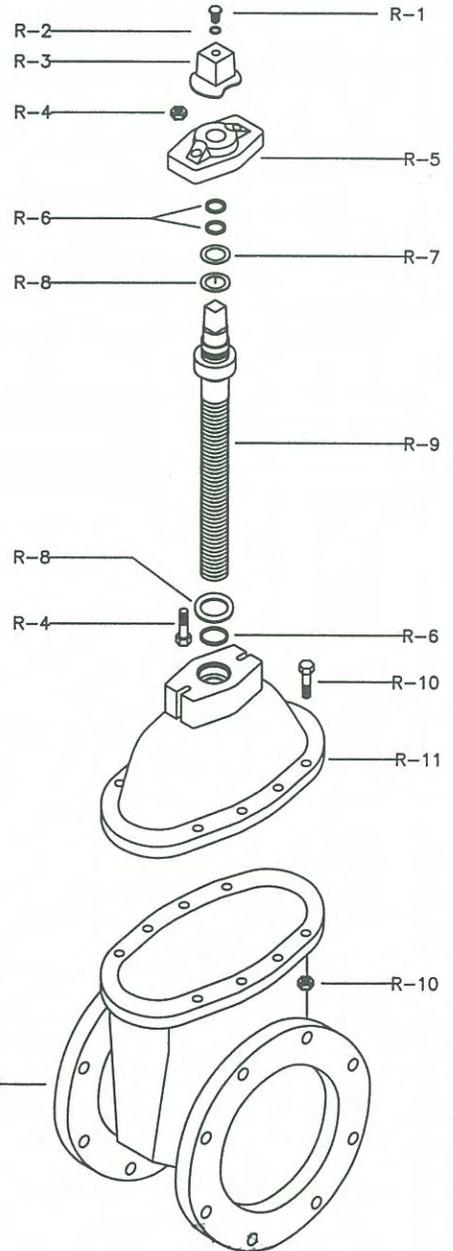
4068A

2"-12" RW VALVE FLANGED ENDS  
NRS ASSEMBLY - EXPLOSION

**CLOW VALVE COMPANY**

MODEL 2639 & 2640

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



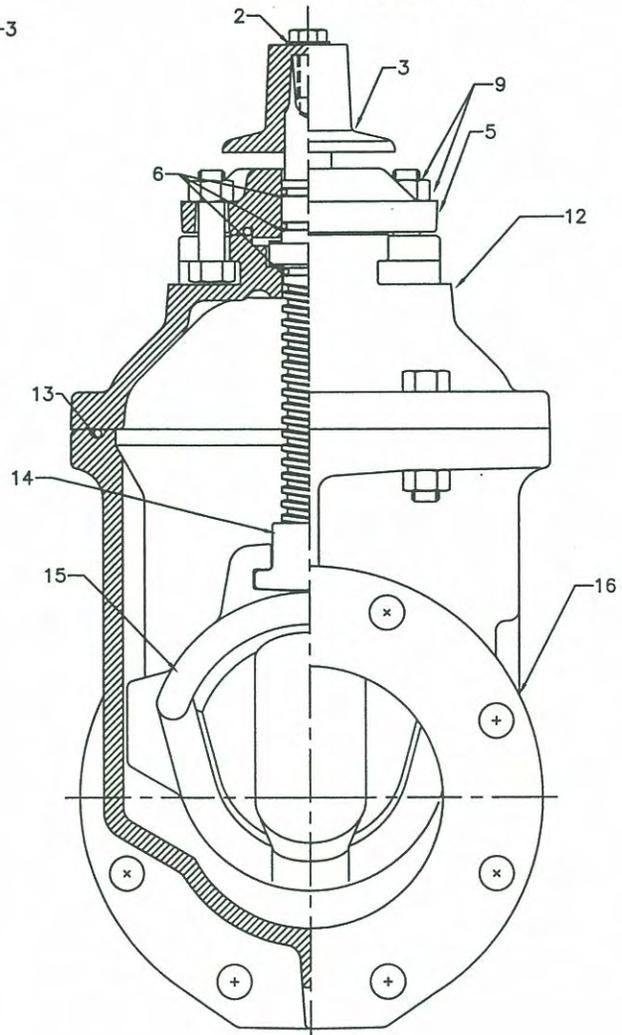
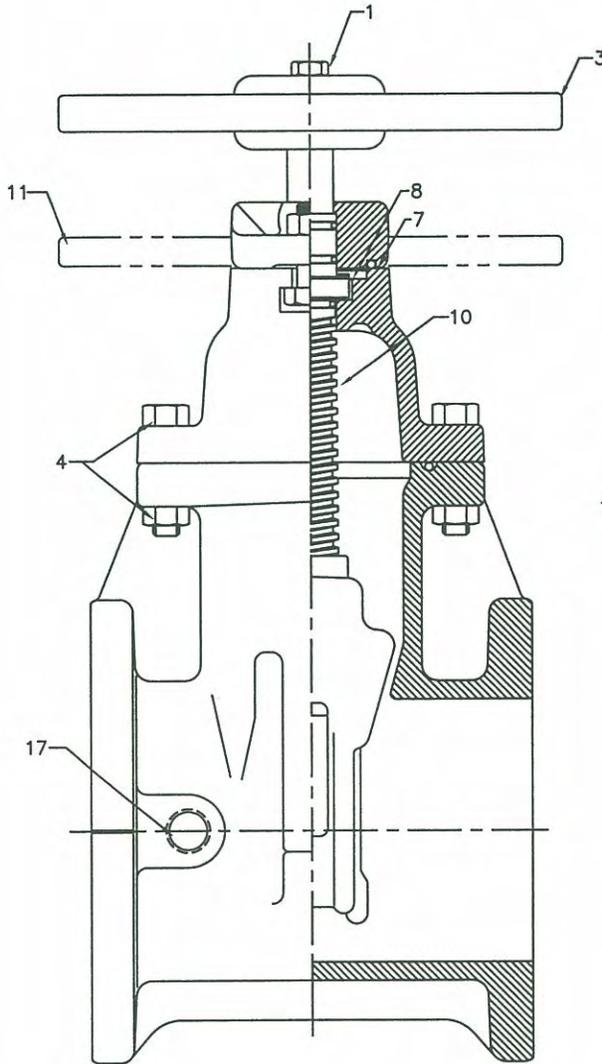
ITEM NO.	QTY.	DESCRIPTION	2639	MATERIAL
R-1	1	HOLD DOWN BOLT		ZINC CHROMATE PLATED STEEL
R-2	1	HOLD DOWN BOLT WASHER		ZINC CHROMATE PLATED STEEL
R-3	1	SQ. OPERATING NUT OR HANDWHEEL (NOT SHOWN)		GRAY IRON
R-4	2	FOLLOWER PLATE BOLT& NUT		ZINC CHROMATE PLATED STEEL
R-5	1	FOLLOWER PLATE		DUCTILE IRON
R-6	3	STEM O-RING		NBR
R-7	1	FOLLOWER PLATE O-RING		NBR
R-8	1	THRUST WASHER (SIZES 2"-2.5")		DELTRIN
	2	THRUST WASHER (SIZES 3-12")		
R-9	1	STEM		BRONZE
R-10	4	COVER BOLTS&NUTS (SIZES 2" THRU 6")		ZINC CHROMATE PLATED STEEL
	8	COVER BOLTS&NUTS (SIZES 8" THRU 12")		ZINC CHROMATE PLATED STEEL
R-11	1	COVER		DUCTILE IRON
R-12	1	STEM NUT		BRONZE
R-13	1	WEDGE		GRAY IRON & SBR
R-14	1	COVER O-RING		NBR
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



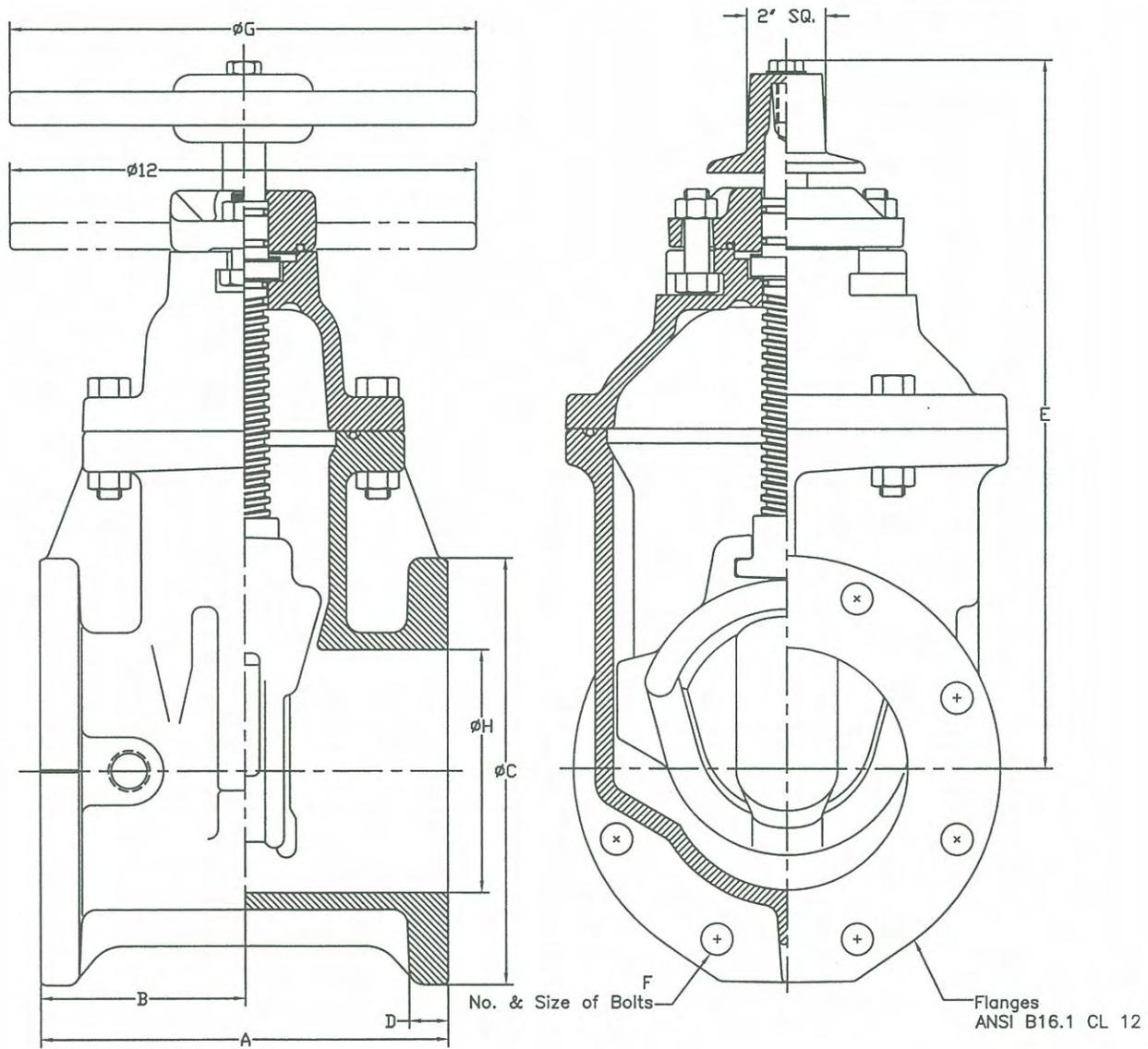
ITEM	DESCRIPTION	MATERIAL 2640	ASTM SPEC.	MATERIAL 2639	ASTM SPEC.
1	Hex Head Bolt	Zinc Chromate Plated Steel	ASTM A307 Gr B	Zinc Chromate Plated Steel	ASTM A307 Gr B
2	Flat Washer	Zinc Chromate Plated Steel	ASTM A307 Gr B	Zinc Chromate Plated Steel	ASTM A307 Gr B
3	Operating Nut or Handwheel	Gray Iron	ASTM A126 Cl B	Gray Iron	ASTM A126 Cl B
4	Hex Head Bolts & Nuts	Zinc Chromate Plated Steel	ASTM A307 Gr B	Zinc Chromate Plated Steel	ASTM A307 Gr B
5	Follower Plate	Gray Iron	ASTM A126 Cl B	Ductile Iron	ASTM A536 Gr 64-45-10
6	Stem O-Ring	Buna N	-----	Buna N	-----
7	Follower Plate O-Ring/gasket	Buna N	-----	Buna N	-----
8	Thrust Washer Bearing	Delrin	-----	Delrin	-----
9	Hex Head Bolts & Nuts	Zinc Chromate Plated Steel	ASTM A307 Gr B	Zinc Chromate Plated Steel	ASTM A307 Gr B
10	Stem	Bronze	ASTM B584 C86700	Bronze	ASTM B584 C86700
11	Indicator Post Plate (Optional 3-12")	Gray Iron	ASTM A126 Cl B	Ductile Iron	ASTM A536 Gr 64-45-10
12	Cover	Gray Iron	ASTM A126 Cl B	Ductile Iron	ASTM A536 Gr 64-45-10
13	Cover O-Ring	Buna N	-----	Buna N	-----
14	Stem Nut	Bronze	ASTM B584 C83600	Bronze	ASTM B584 C83600
15	Wedge	Gray Iron & SBR	ASTM A126 Cl B	Gray Iron & SBR	ASTM A126 Cl B
16	Body - all types	Gray Iron	ASTM A126 Cl B	Ductile Iron	ASTM A536 Gr 64-45-10
17	Pipe Plug (Optional Some Styles)	Stainless Steel	-----	Stainless Steel	-----

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

CLOW VALVE COMPANY

MODEL 2639 & 2640

F-6102



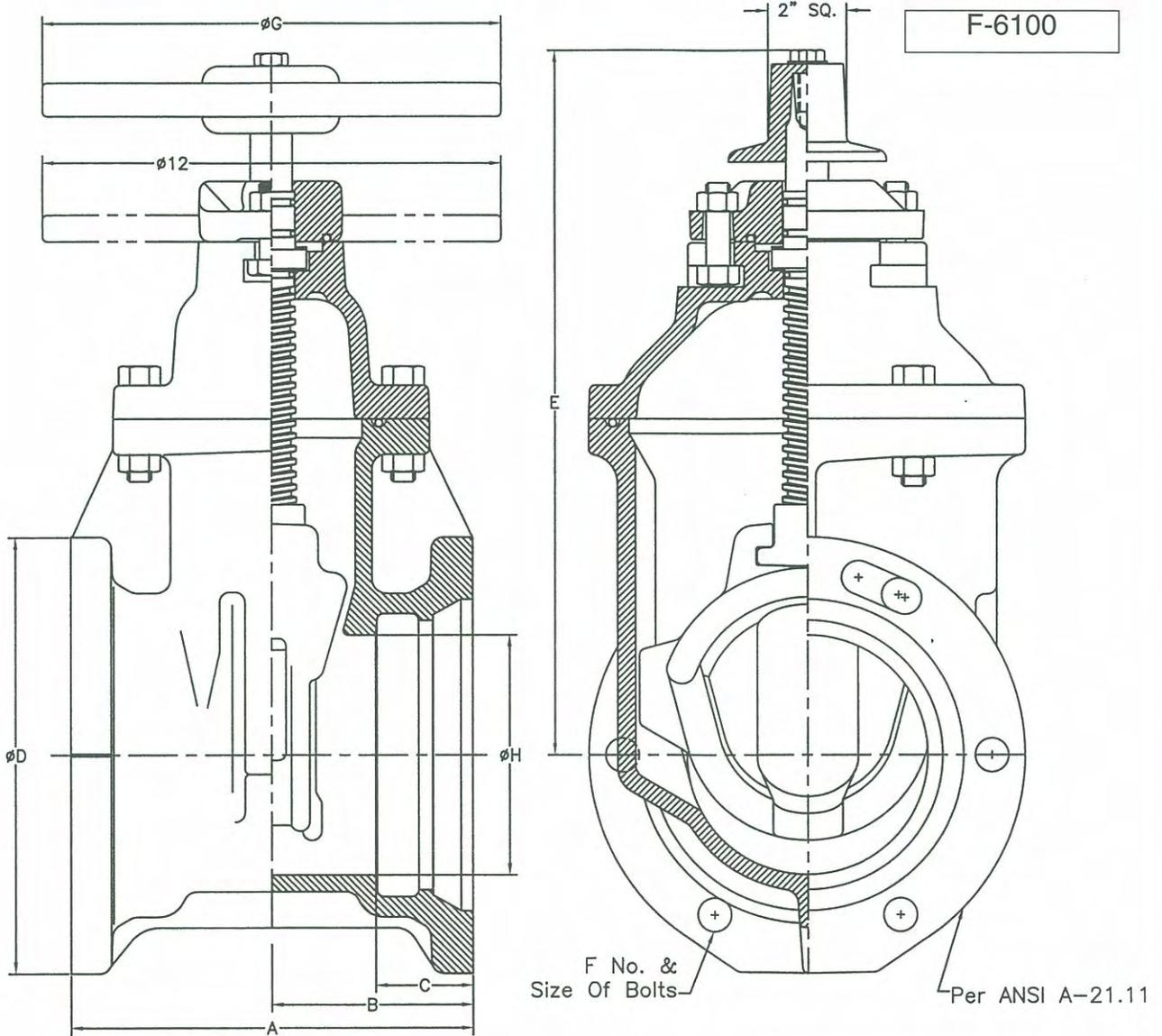
VALVE SIZE	A	B	C	D	E	F	G	H
2	7	3½	6	¾	10¾	4-⅝	7¼	2
2½	7½	3¾	7	1⅛	11¾	4-⅝	7¼	2½
3	8	4	7½	¾	12¾	4-⅝	10	3
4	9	4½	9	1⅝	14¾	8-⅝	10	4¼
6	10½	5¼	11	1	19	8-¾	12	6¼
8	11½	5¾	13½	1½	22½	8-¾	14	8¼
10	13	6½	16	1¾	26½	12-⅞	18	10¼
12	14	7	19	1¼	30	12-⅞	18	12¼

Complies with applicable requirements of AWWA C509

2"-12" RW VALVE MECHANICAL JOINT ENDS GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2639 & 2640



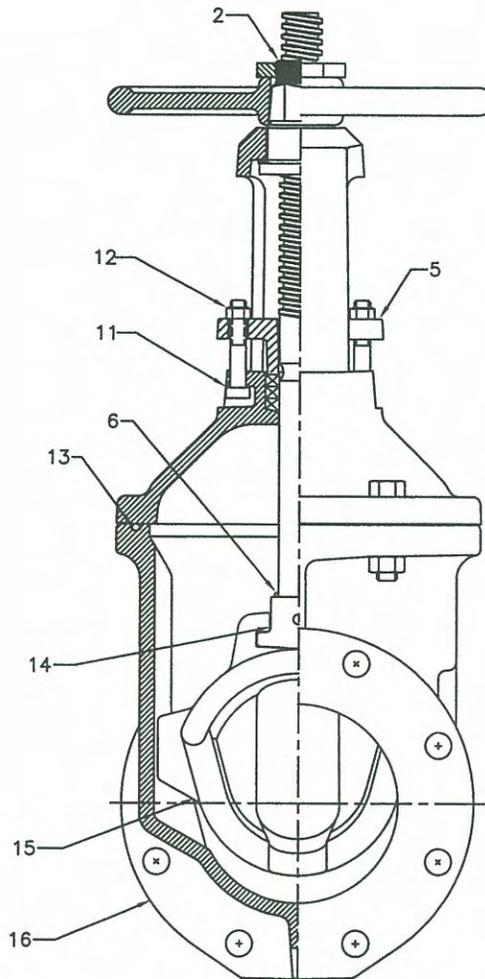
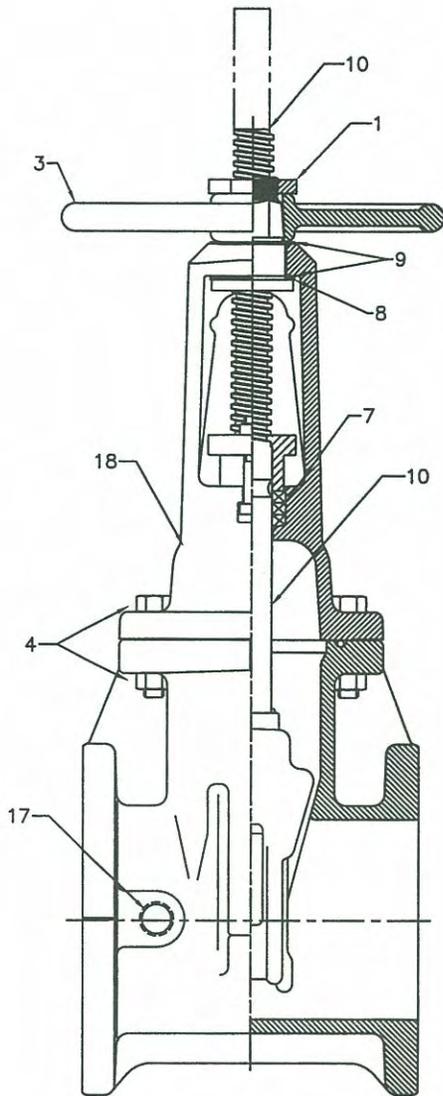
VALVE SIZE	A	B	C	D	E	F	G	H
2	8 1/4	4 1/8	2 1/2	4 1/2	10 7/8	4-5/8	7 1/4	2
2 1/2	—	—	—	—	—	—	—	—
3	8 1/2	4 1/4	2 1/2	7 3/4	12 3/8	4-5/8	10	3
4	9 1/2	4 3/4	2 1/2	9 1/8	14 3/4	4-3/4	10	4 1/4
6	10 1/2	5 1/4	2 1/2	11 3/8	19	6-3/4	12	6 1/4
8	13 1/8	6 9/16	2 1/2	13 3/4	22 1/2	6-3/4	14	8 1/4
10	15 1/2	7 3/4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

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

**CLOW VALVE COMPANY**

MODEL 2639 & 2640



DET.	NAME OF PART	MATERIAL 2640	ASTM SPEC.	MATERIAL 2639	ASTM SPEC.
R-1	HANDWHEEL NUT	BRONZE	ASTM B62	BRONZE	ASTM B62
R-2	HANDWHEEL	CAST IRON	ASTM A126 CLASS B	CAST IRON	ASTM A126 CLASS B
R-3	UPPER THRUST WASHER	BRASS	ASTM B36 CDA 260	BRASS	ASTM B36 CDA 260
R-4	LOWER THRUST WASHER	BRASS	ASTM B36 CDA 260	BRASS	ASTM B36 CDA 260
R-4A	LOWER THRUST WASHER	DELTRIN	-----	DELTRIN	-----
R-5	TOP NUT	MANGANESE BRONZE	ASTM B584 CDA 836	MANGANESE BRONZE	ASTM B584 CDA 836
R-6	HEX. HEAD COVER BOLTS & NUTS	ZINC PLATED STEEL	ASTM A307 GRADE B	ZINC PLATED STEEL	ASTM A307 GRADE B
R-7	COVER	CAST IRON	ASTM A126 CLASS B	DUCTILE IRON	ASTM A536 GR. 64-45-10
R-8	PACKING BOLTS	ZINC PLATED STEEL	ASTM A307 GRADE B	ZINC PLATED STEEL	ASTM A307 GRADE B
R-8	PACKING BOLT NUTS	BRASS	COMMERCIAL	BRASS	COMMERCIAL
R-9	GLAND FLANGE	CAST IRON	ASTM A126 CLASS B	CAST IRON	ASTM A126 CLASS B
R-11	PACKING	SQ. BRAIDED NON-ASBESTOS	-----	SQ. BRAIDED NON-ASBESTOS	-----
R-12	O-RING	BUNA	-----	BUNA	-----
R-13	STEM O-RING	BUNA-N	-----	BUNA-N	-----
R-14	STEM	MANGANESE BRONZE	ASTM B584 CDA 867	MANGANESE BRONZE	ASTM B584 CDA 867
R-15	WEDGE	CL URETHANE MOLDED WEDGE	ASTM A126 CLASS B	CL URETHANE MOLDED WEDGE	ASTM A126 CLASS B
R-16	BODY (ALL TYPES)	CAST IRON	ASTM A126 CLASS B	DUCTILE IRON	ASTM A536 GR. 64-45-10

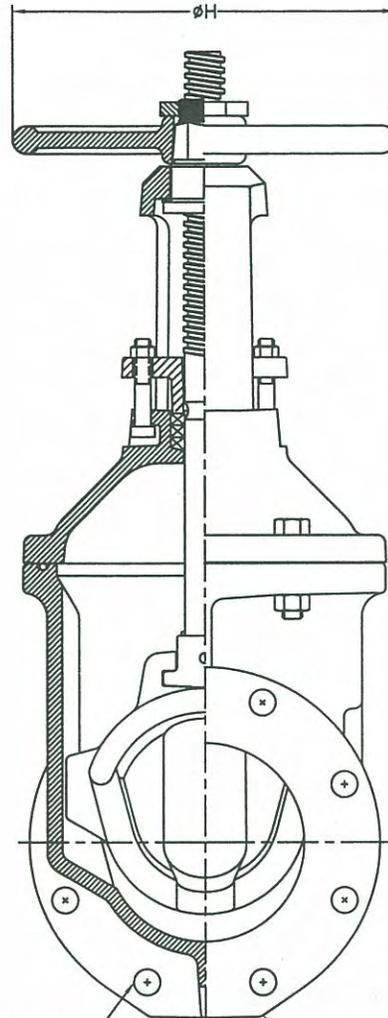
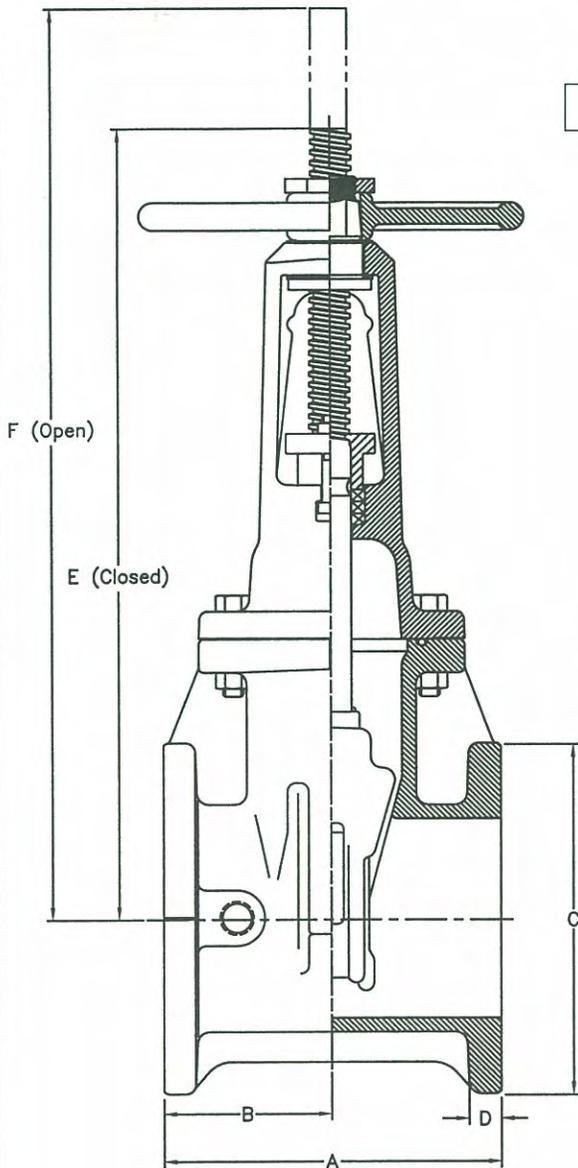
Complies with applicable requirements of AWWA C509

2"-12" RW VALVE FLANGE ENDS  
OS&Y GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2639 & 2640

F-6136



G  
No. & Size Of Bolts

Flanges  
ANSI B16.1-CL 125

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

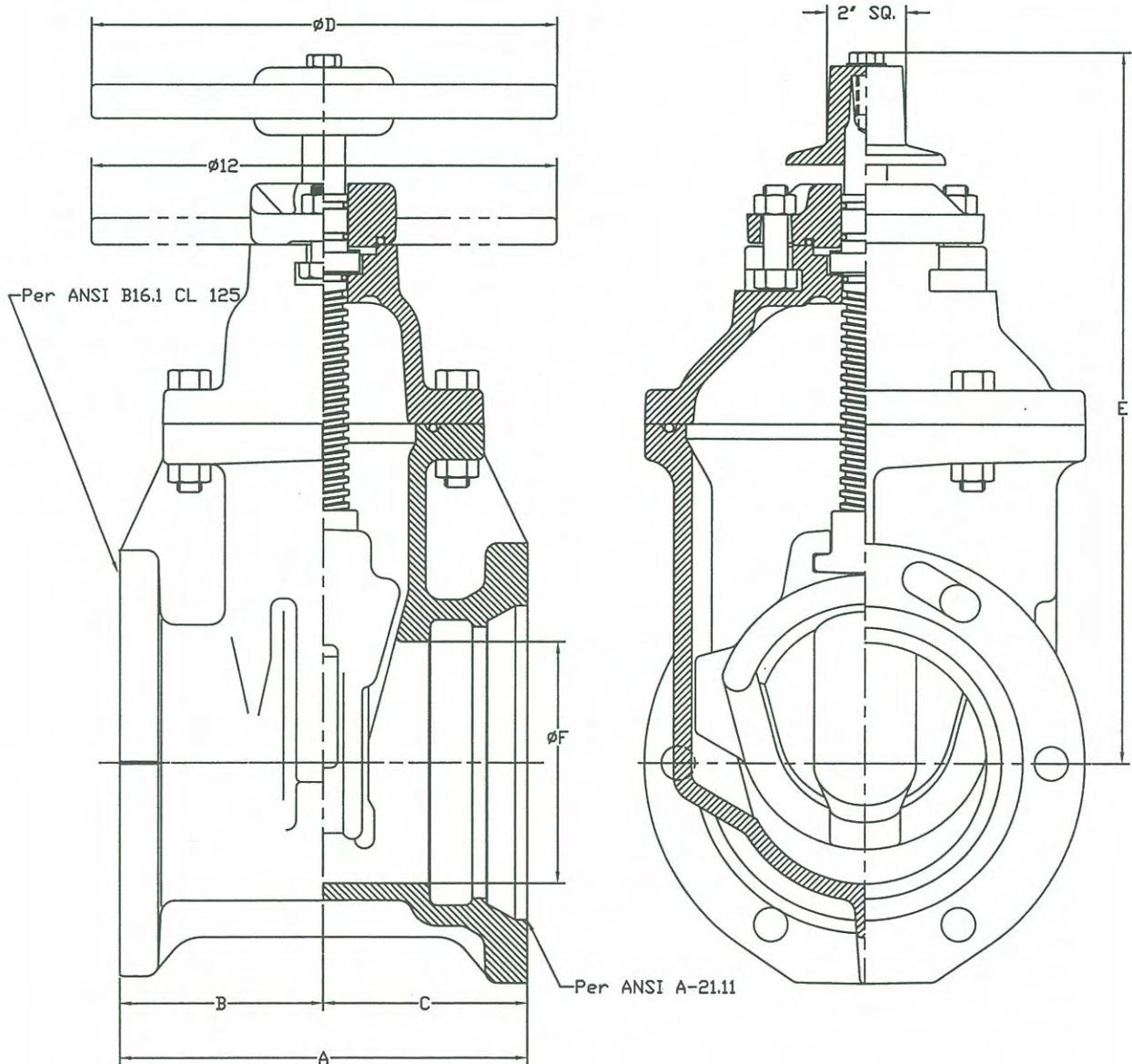
Valves comply with AWWA C509

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

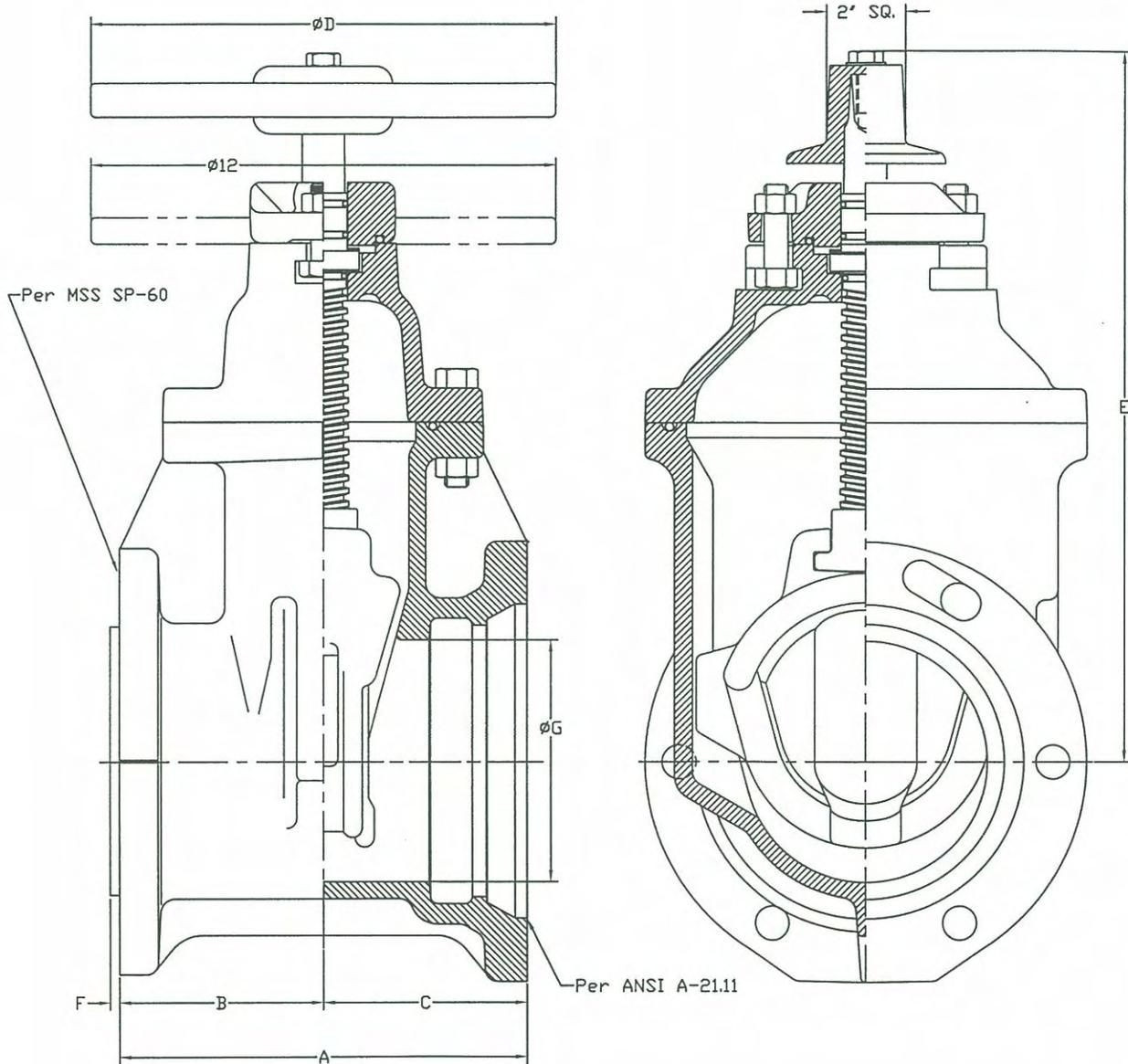
Valves comply with AWWA C509

3"-12" RW 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

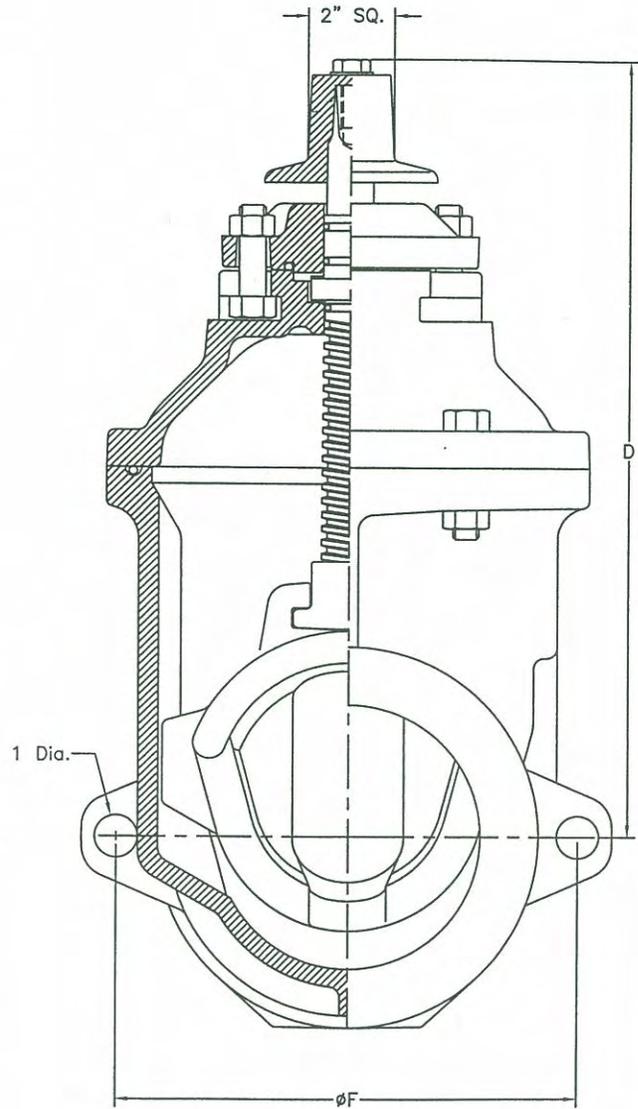
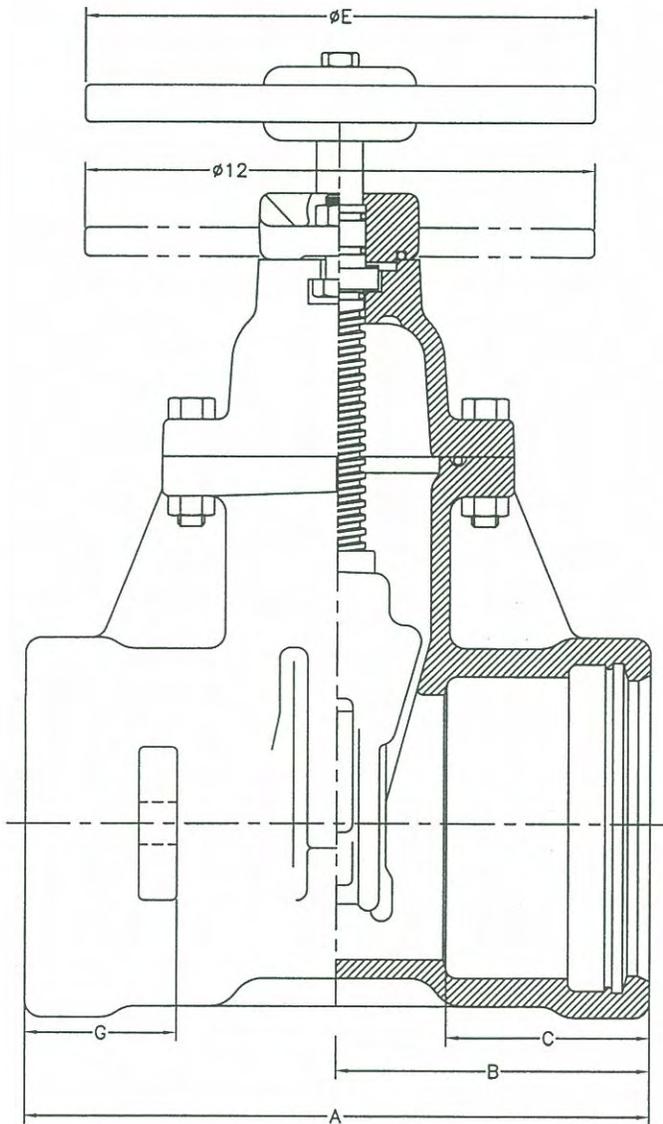
Complies with AWWA C509

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

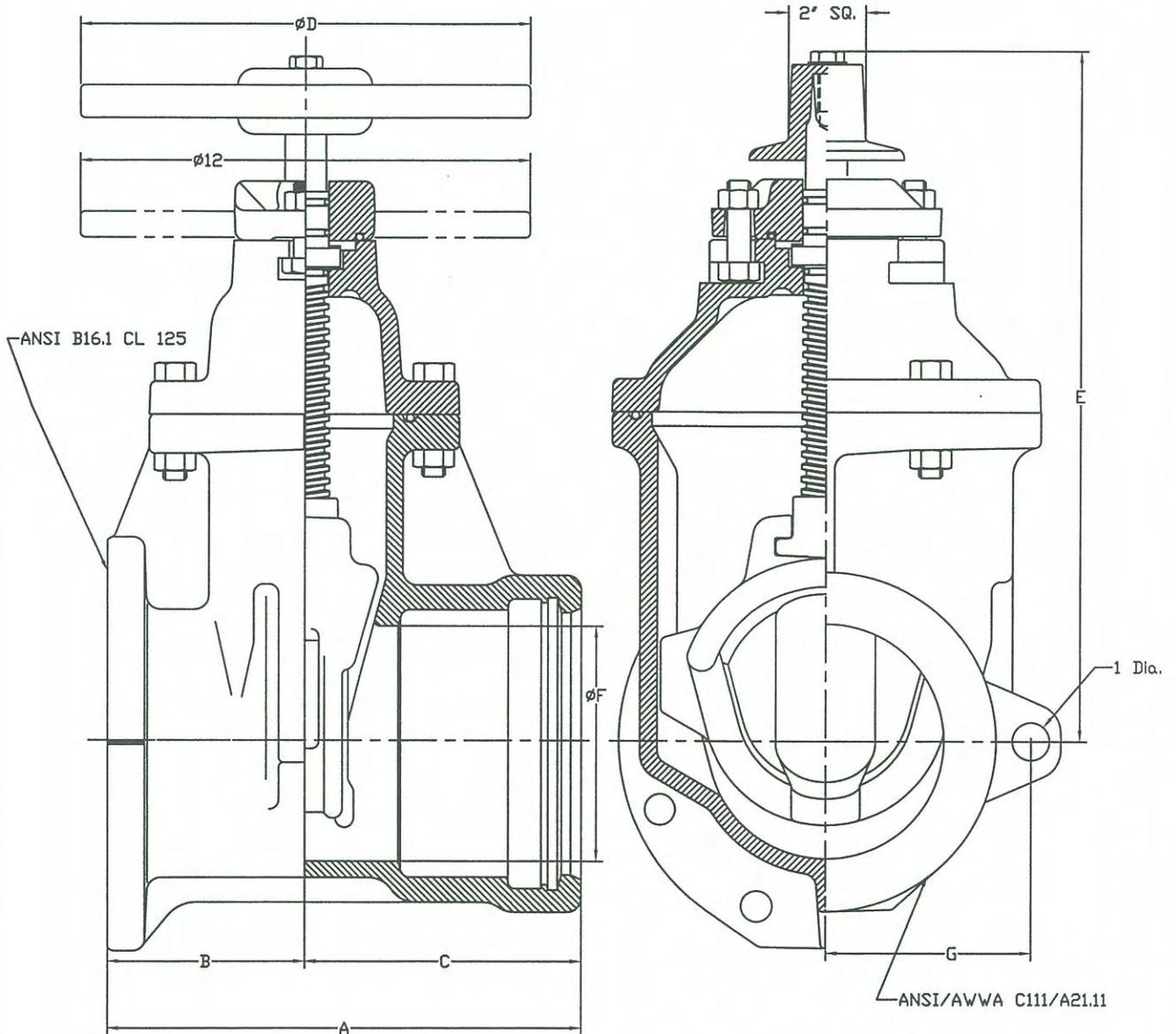
Valves comply with AWWA C509

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

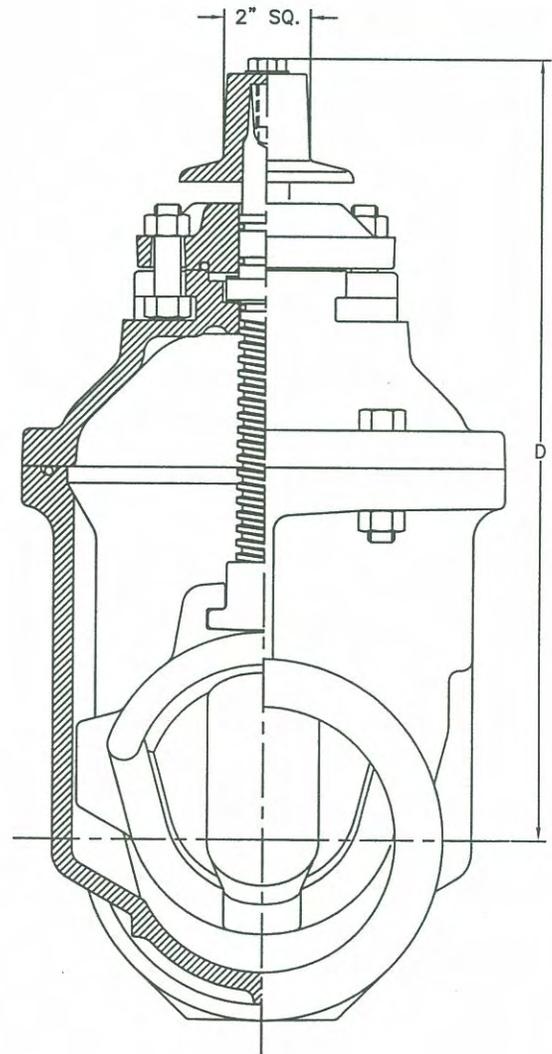
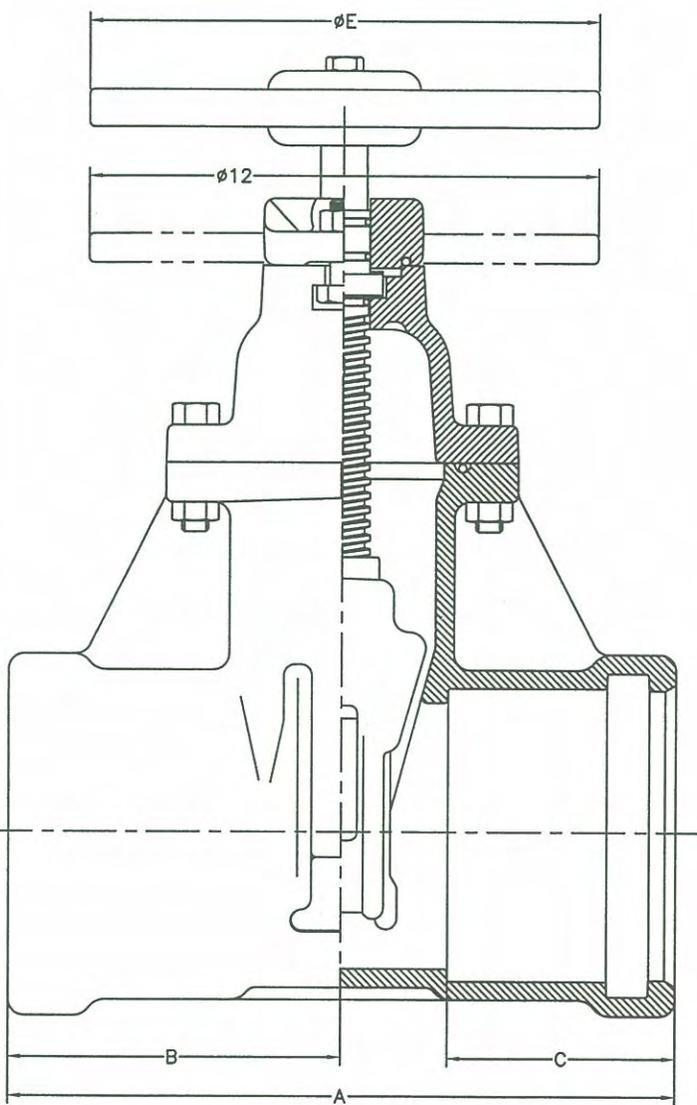
Complies with applicable requirements of AWWA C509

2"-8" RW 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

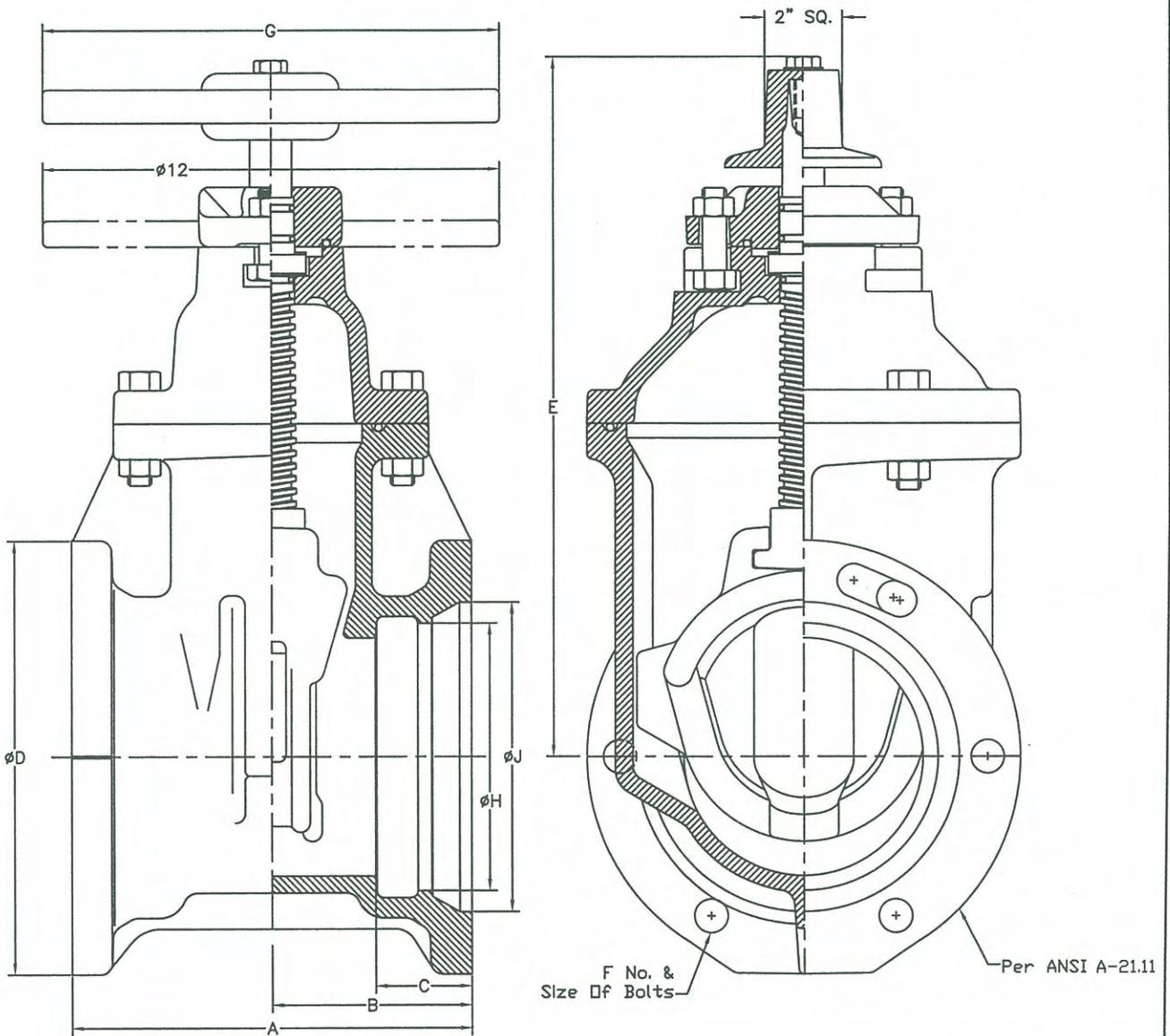
Complies with applicable requirements of AWWA C509

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

**CLOW VALVE COMPANY**

MODEL 2639 & 2640

F-6111

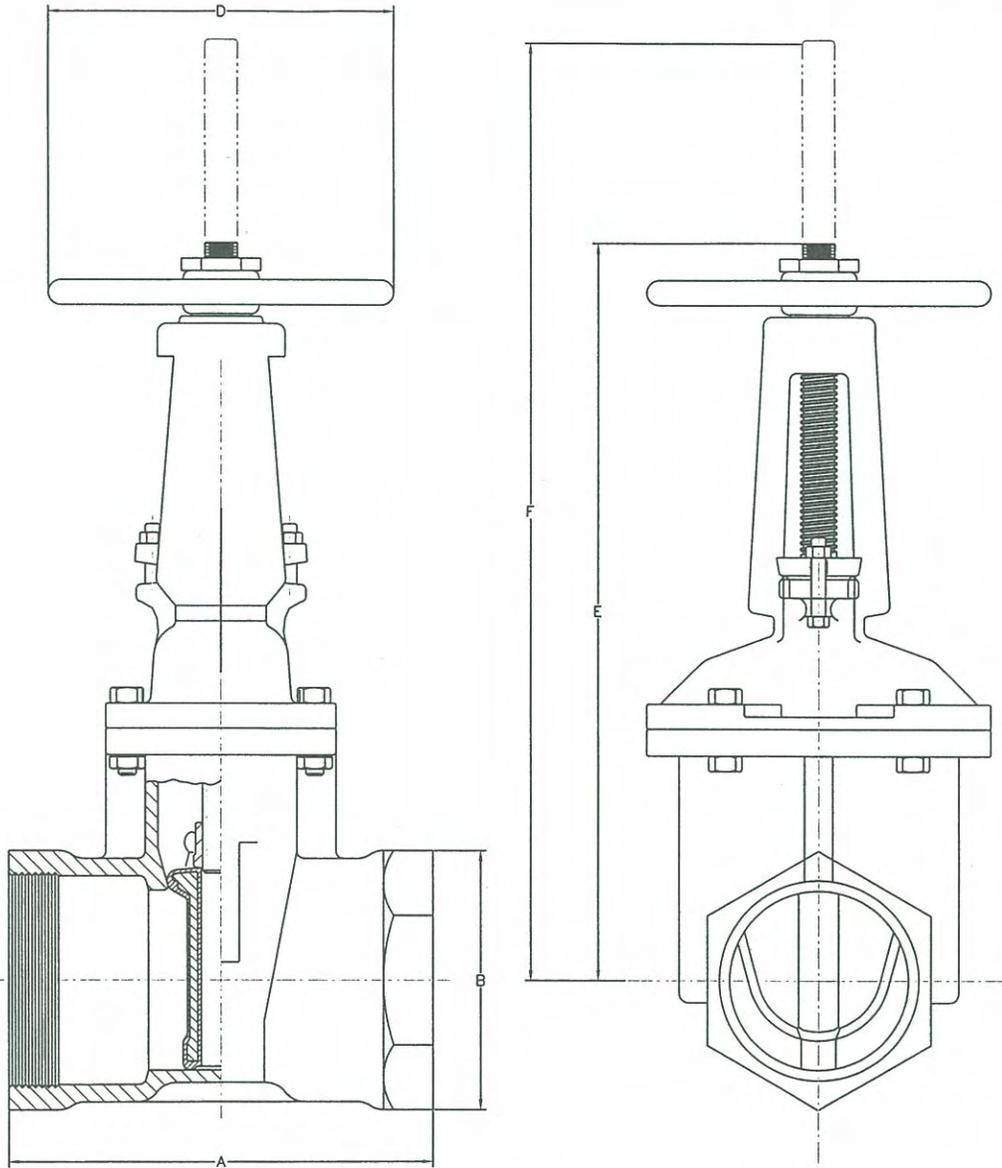


VALVE SIZE	A	B	C	D	E	F	G	H	J
4	9 1/2	4 3/4	2 1/2	9 1/8	14 3/4	4-3/4	10	5.10	6.20
6	10 1/2	5 1/4	2 1/2	11 1/8	19	6-3/4	12	7.20	8.30
8	13 1/8	6 9/16	2 1/2	13 3/4	22 1/2	6-3/4	14	9.40	10.50
10	15 1/2	7 3/4	2 1/2	15 3/4	26 1/2	8-3/4	18	11.50	12.62
12	16	8	2 5/8	18	30	8-3/4	18	13.60	14.72

2 1/2" – 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

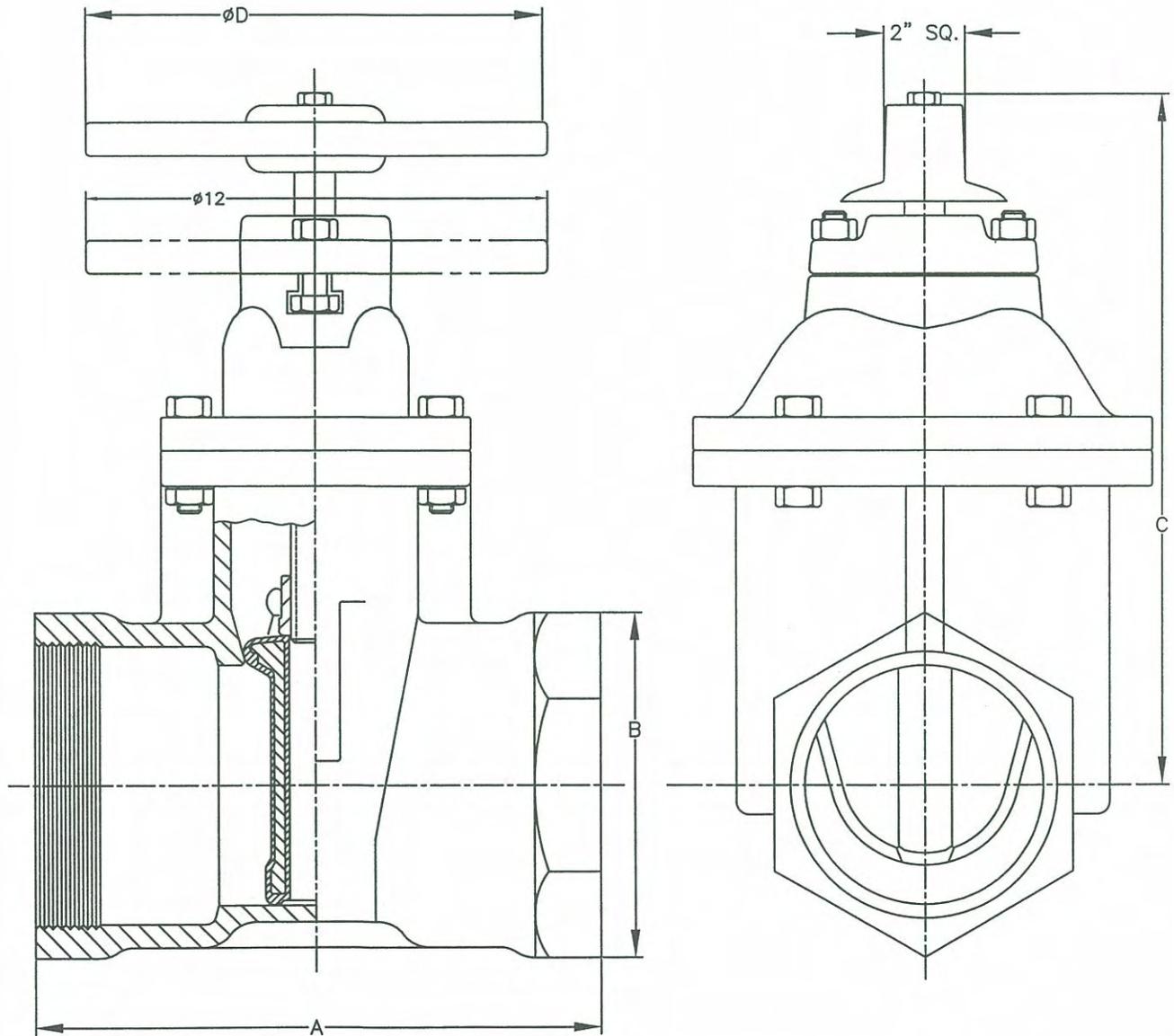
Complies with applicable requirements of AWWA C509

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

**CLOW VALVE COMPANY**

MODEL 2639 & 2640

F-6103



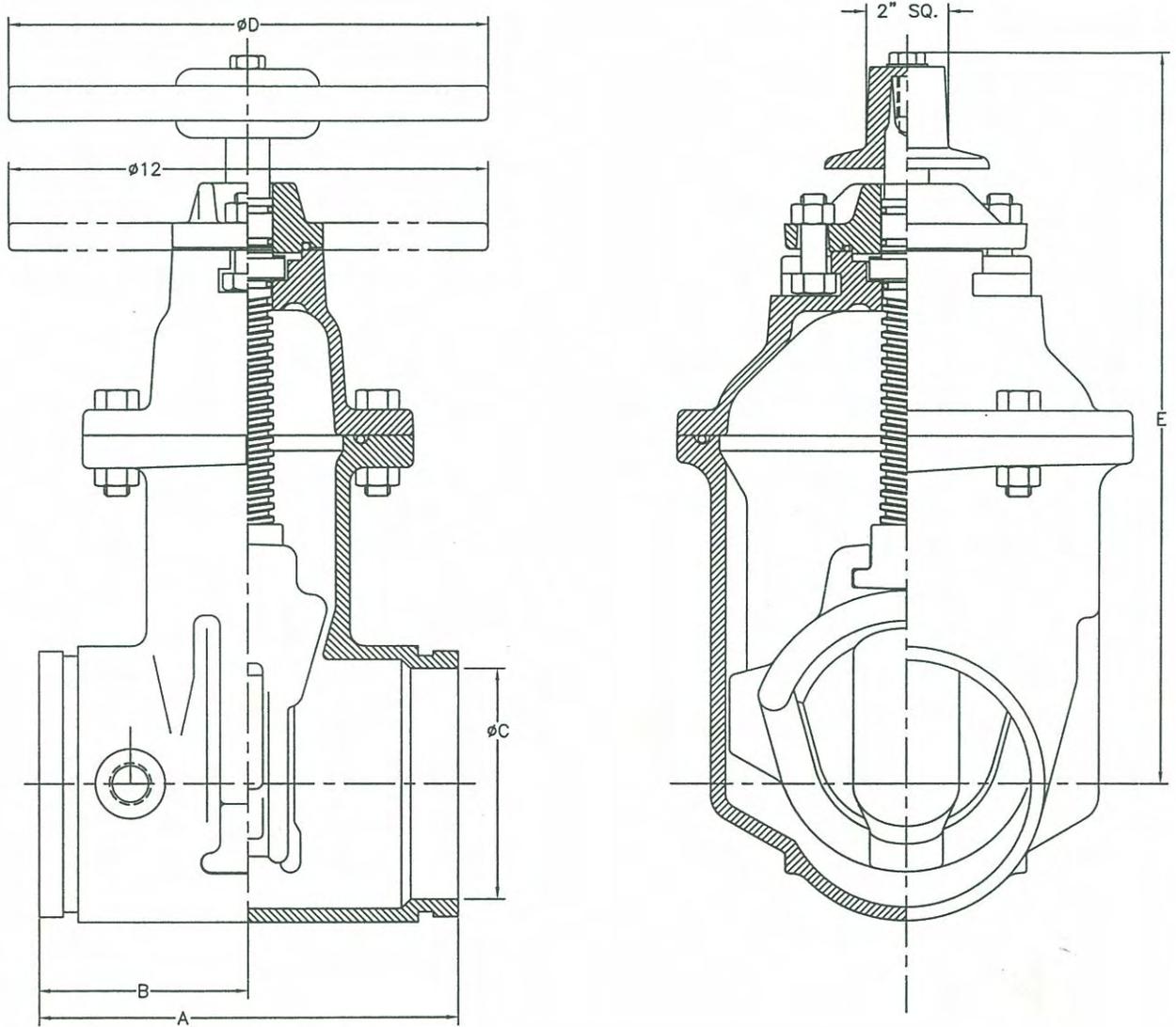
VALVE SIZE	A	B	C	D
2	5 1/4	4 1/8	10 7/8	7 1/4
2 1/2	7	5 3/16	11 3/8	7 1/4
3	7 1/8	5 5/8	12 3/8	10

Complies with applicable requirements of AWWA C509

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

**CLOW VALVE COMPANY**

MODEL 2639



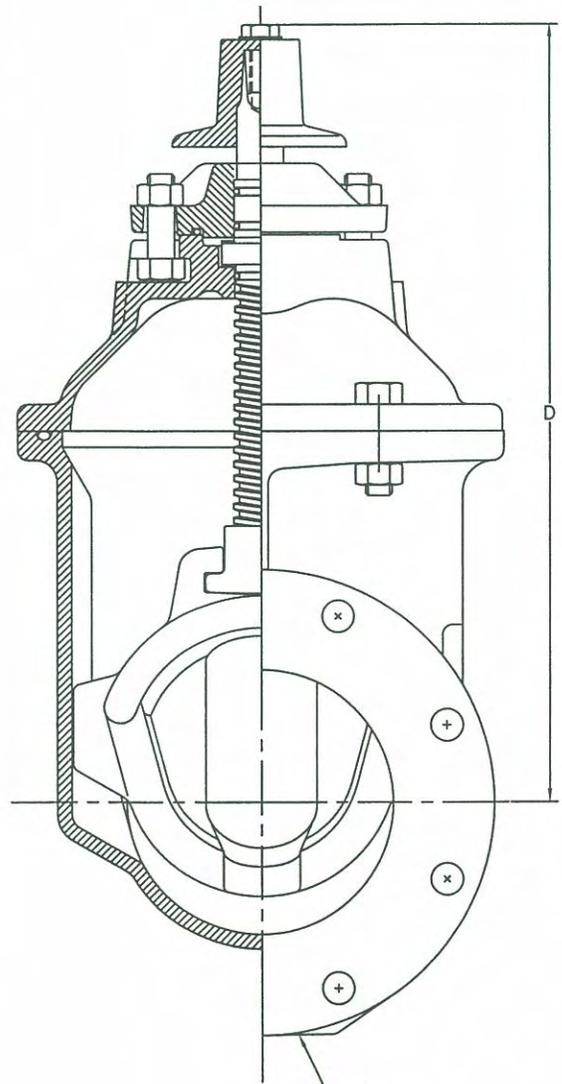
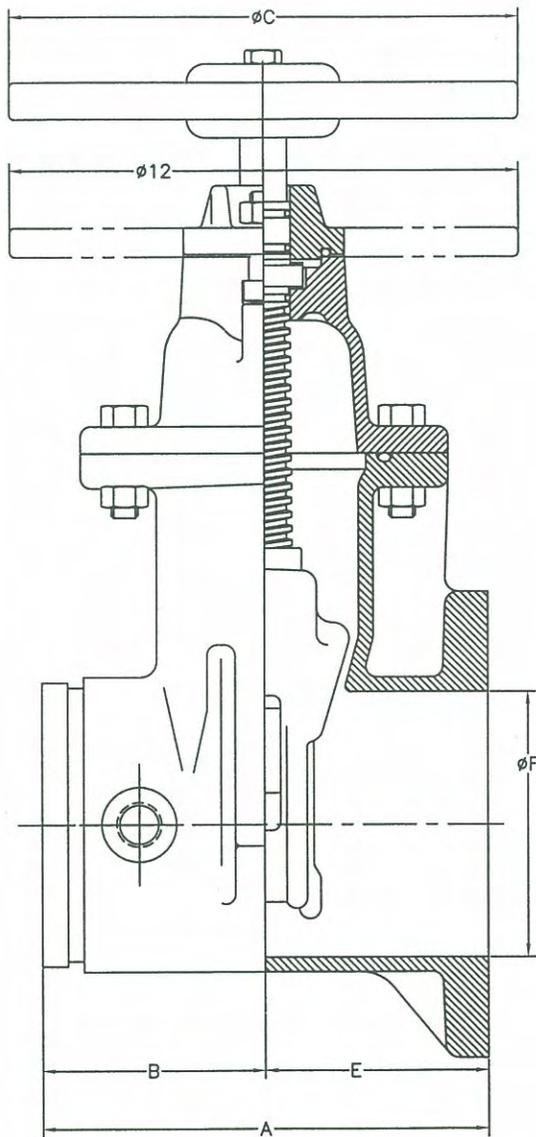
VALVE SIZE	A	B	C	D	E
2 1/2	7 1/2	3 3/4	1.97	7 1/4	10 7/8
3	8	4	2.63	10	12 3/8

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



Flanges  
ANSI B16.1 CL 125

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

R/W VALVE  
Material Specifications

**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
Elongation	10-12 %

**Urethane Rubber**

Hardness	78±2
100% Modulus (PSI)	820
Tensile (PSI)	5,400
Elongation (%)	460

**Seat Rubber (SBR)**

Hardness	78±2
100% Modulus (PSI)	820
Tensile (PSI)	5,400
Elongation (%)	460
Compression Set, ASTM D395 Method B	18% max.

**STANDARD**

**CAST BRONZE—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

**CAST BRONZE—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	55.0–60.0
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

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 rated 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 429-73 specification.

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

2"-12" R/W VALVE AWWA SERVICE  
Performance Information

**CLOW VALVE COMPANY**

MODEL 2639 & 2640

1. Valve complies with AWWA C509 specs where applicable.
2. Valve is rated at 250 psi working pressure.
3. Valve is bubble-tight at all pressures up to full rated pressure (250 psi).
4. Valve is capable of bubble-tight seal at twice the rated pressure (500 psi) for short periods of time.
5. 2" thru 12" valve sizes have been hydrostatically shell tested at 2.5 times the rated pressure (625 psi).
6. Valve has been subjected to torques 150 percent of the designated minimum required torques.
7. Valve has been cycle tested 5,000 times without loss of bubble-tight seal.
8. Rubber to iron bond on wedge is inspected for strength as per ASTM D 429-73 specification.

**R/W RESILIENT WEDGE GATE VALVE**  
Product Analysis

**CLOW VALVE COMPANY**

MODEL 2639 & 2640

<b>Features</b>	<b>Benefits</b>
Bubble Tight Closure at 250 psi (2"-12") (AWWA SERVICE)	<ul style="list-style-type: none"> <li>• No leakage—no loss of water</li> </ul>
Smooth, Unobstructed Waterway	<ul style="list-style-type: none"> <li>• High flow characteristics</li> <li>• 100% smooth passage without turbulent flow</li> <li>• No sediment build-up</li> <li>• Will not impede travel of line cleaning tools</li> </ul>
Only Three Internal Parts	<ul style="list-style-type: none"> <li>• Virtually maintenance free</li> </ul>
No Seat Rings	<ul style="list-style-type: none"> <li>• Nothing to be damaged by scoring</li> </ul>
Delrin* Anti-Friction Thrust Bearing	<ul style="list-style-type: none"> <li>• Operating torque to close and open held to absolute minimum</li> </ul>
Solid, Bronze Stem Nut and High Strength Bronze Stem	<ul style="list-style-type: none"> <li>• No corrosion</li> <li>• Trouble-free service</li> </ul>
Stem Nut is Self Centering	<ul style="list-style-type: none"> <li>• Eliminates possible stress on stem and wedge</li> </ul>
Two "O" Ring Seals Above Stem Thrust Collar	<ul style="list-style-type: none"> <li>• Can be replaced with valve in service</li> </ul>
High Strength Iron Wedge Fully Encapsulated with Rubber Permanently Bonded to Metal. Wedge Design Incorporates Two Seating Surfaces.	<ul style="list-style-type: none"> <li>• Trouble-free service with minimum maintenance</li> <li>• No leaks—no wear</li> </ul>

\*DuPont Trademark

**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		CHEMICAL	EPOXY RATING	
	70°F	180°F		70°F	180°F
<b>ACIDS:</b>			<b>ALKALIES:</b>		
Acetic, 10%	F	N	Ammonium Hydroxide	E	G
Benzene Sulfonic, 10%	E	E	Calcium Hydroxide	E	E
Benzoic	E	E	Potassium Hydroxide	E	E
Boric	E	E	Sodium Hydroxide	E	E
Chloracetic, 10%	E	E	<b>ACID SALTS:</b>		
Chromic, 5%	F	N	Aluminum Sulfate	E	E
Citric, 10%	E	N	Ammonium Chloride*	E	E
Fatty Acids	E	E	Copper Chloride*	E	E
Formic, 90%	E	F	Iron Chloride*	E	E
Hydrobromic, 20%	G	G	Nickel Chloride*	E	E
Hydrochloric, 20%	E	G	Zinc Chloride*	E	E
Hydrocyanic	E	E	<b>ALKALINE SALTS:</b>		
Hydrofluoric, 20%	G	G	Barium Sulfide	E	E
Hypochlorous, 5%	F	N	Sodium Bicarbonate	E	E
Lactic, 5%	F	N	Sodium Carbonate	E	E
Maleic, 25%	E	E	Sodium Sulfide	E	E
Nitric, 5%	E	G	Trisodium Phosphate	E	E
Nitric, 30%	G	P	<b>NEUTRAL SALTS:</b>		
Oleic	E	E	Calcium Chloride*	E	E
Oxalic	E	E	Magnesium Chloride*	E	E
Phosphoric	G	F	Potassium Chloride*	E	E
Picric	G	F	Sodium Chloride*	E	E
Steric	E	E	<b>SOLVENTS:</b>		
Sulfuric, 50%	G	F	Alcohols	E	E
Tannic	E	E	Aliphatic Hydrocarbons	E	E
			Aromatic Hydrocarbons	E	E
Ketones	F	F	Benzene	E	E
Ethers	F	F	Formaldehyde, 37%	E	G
Esters	F	F	Phenol, 5%	G	F
Gasoline	E	E	Mineral Oils	E	E
Carbon Tetrachloride	E	E	Vegetable Oils	E	E
Organics:			Chlorobenzene		
Aniline	G	P			

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

<b>VALVE SIZE</b>	<b>Cv (FULL OPEN)</b>	<b>K (FULL OPEN)</b>
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

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

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 bronze with integral collars in full compliance with AWWA. OS & Y stems shall be bronze. 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 bronze. 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 approved. 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.

**RESILIENT  
WEDGE VALVES**

**CLOW VALVE COMPANY**

**CLOW AWWA Resilient Wedge Gate Valves  
Meet or Exceed the Requirements of  
AWWA Standard C515**

Size Range	Water Working Pressure psi	Bubble Tight Test psi	Hydrostatic Shell Test psi
AWWA 4"-12"	250	250	500
AWWA 14"-24"	200	200	400
ULFM 4"-12"	200	200	400
ULFM 14"-16"	200	200	400

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

**Available End Connections & Size Range**

**Figure No.**

FLG End (NRS)	4"-24"	F-6102
M.J.	4"-24"(except 2 1/2")	F-6100
FLG & M.J.	4"-24"	F-6106
Push-on for PVC (SDR)	4"-8"	F-6110
FLG End (OS & Y)	4"-24"	F-6136
M.J. for Tapping	4"-24"	F-6114
Tyton for D.I. & C900 PVC	4"-12" & 16"	F-6112
M.J. Cutting-in	4"-12"	F-6111
Push-on for D.I. X FLG	4"-12"	F-6113
Push-on for C.I. for Tapping	4"-8"	F-6115

**Accessories (Illustrated in the Gate Valve Section)**

Indicator Posts	2" Sq. Operating Nuts
Enclosed Gearing (14"-24")	Handwheels
"T" Handles	Extension Stems
Stem Guides	Floor Boxes
Electric Motor Actuators	Chain Wheels

Floorstands (non-rising stem)

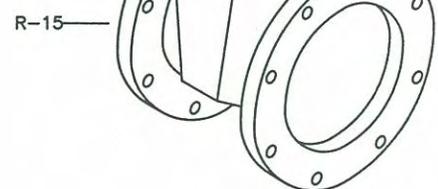
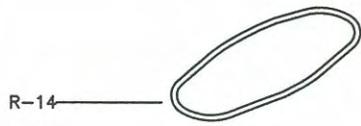
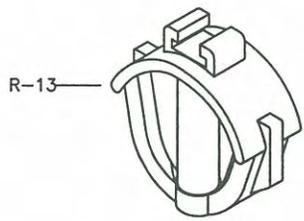
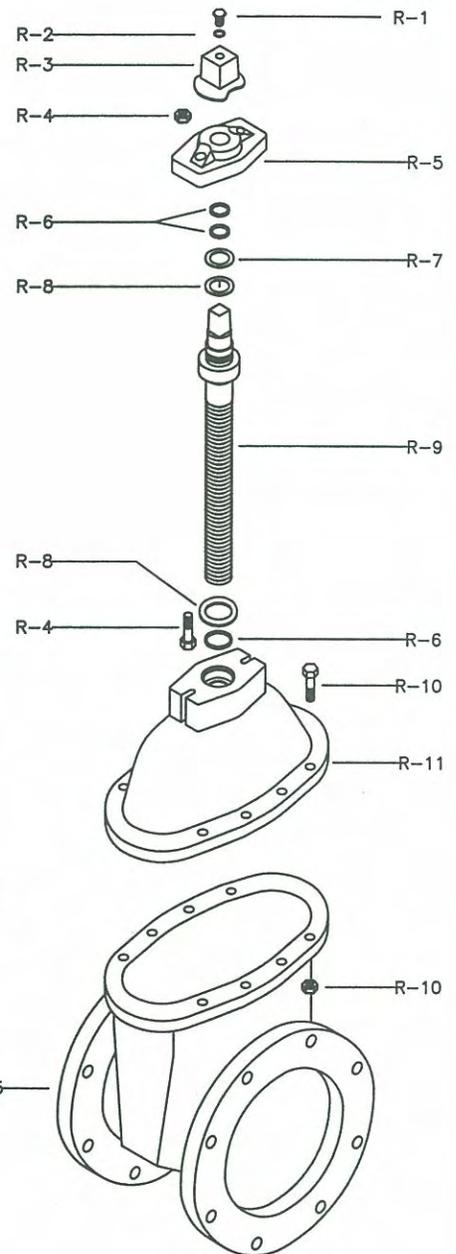
MODEL 2638 AWWA C515 REDUCED WALL DUCTILE IRON

4"-12" R/W VALVE  
NRS ASSEMBLY EXPLOSION

**CLOW VALVE COMPANY**

MODEL 2638

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

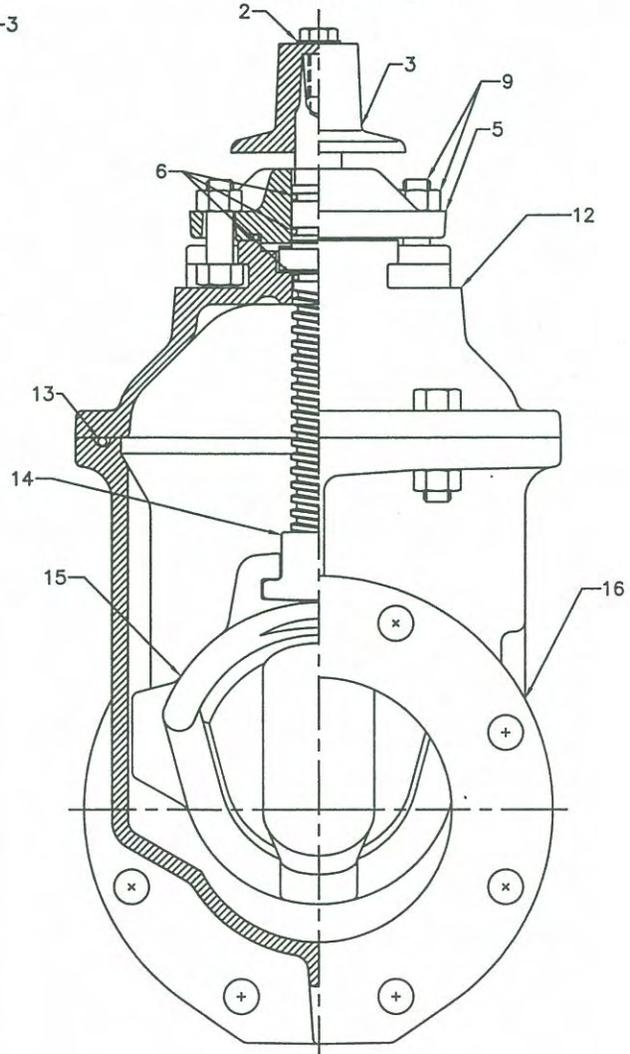
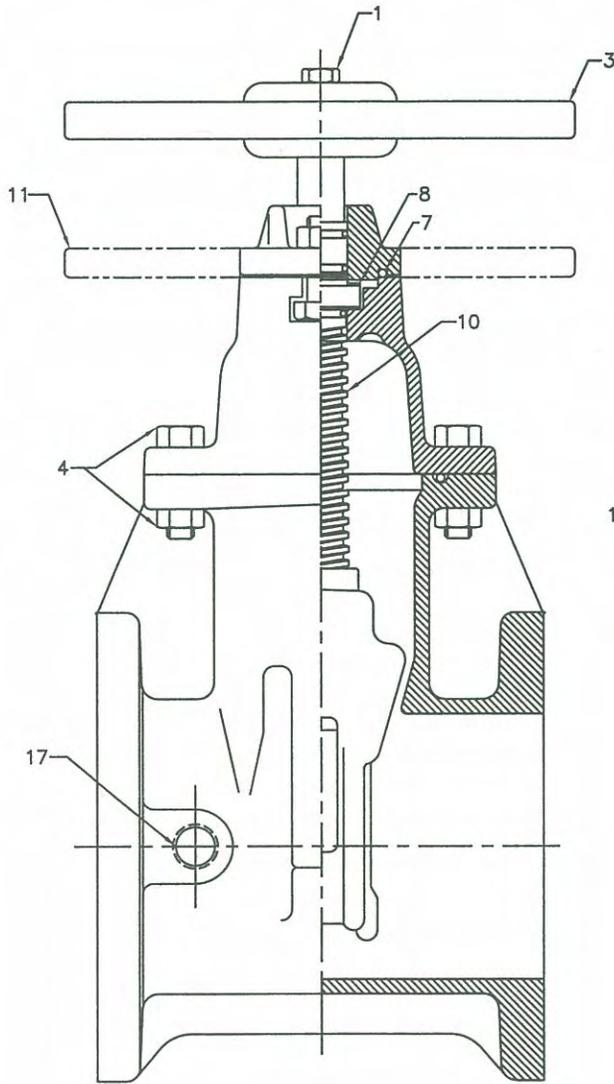


Complies with applicable requirements of AWWA C515

4"-12" R/W VALVE  
MATERIAL LIST

**CLOW VALVE COMPANY**

MODEL 2638



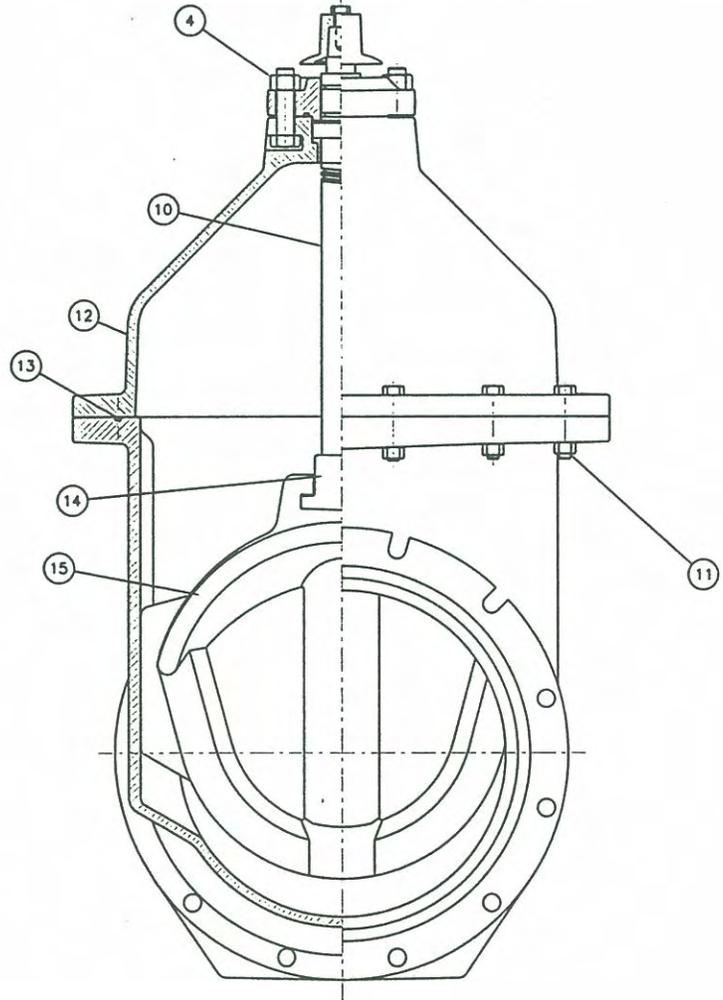
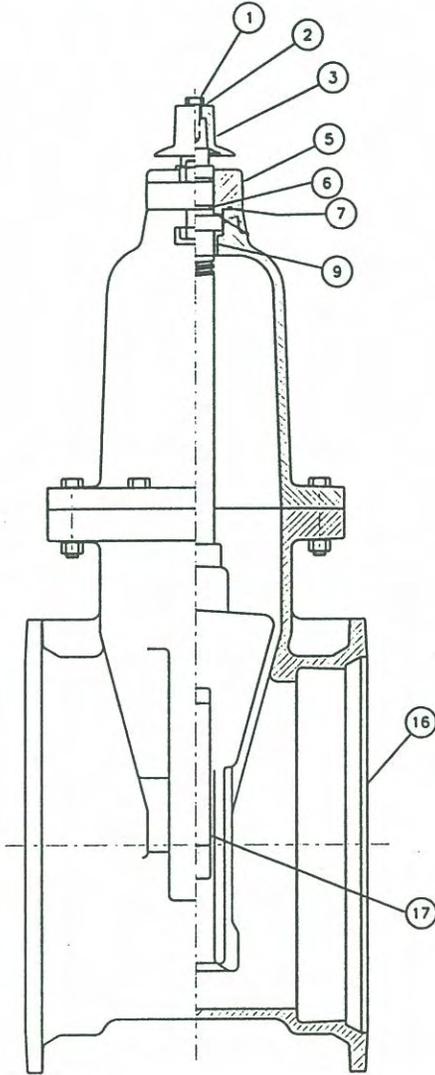
ITEM	DESCRIPTION	MATERIAL	ASTM SPEC.
1	Hex Head Bolt	Zinc Chromate Plated Steel	ASTM A307 Gr B
2	Flat Washer	Zinc Chromate Plated Steel	ASTM A307 Gr B
3	Operating Nut or Handwheel	Gray Iron	ASTM A126 Cl B
4	Hex Head Bolts & Nuts	Zinc Chromate Plated Steel	ASTM A307 Gr B
5	Follower Plate	Ductile Iron	ASTM A536 65-45-12
6	Stem O-Ring	Buna N	-----
7	Follower Plate O-Ring/gasket	Buna N	-----
8	Thrust Washer Bearing	Delrin	-----
9	Hex Head Bolts & Nuts	Zinc Chromate Plated Steel	ASTM A307 Gr B
10	Stem	Bronze	ASTM B584 C86700
11	Indicator Post Plate (Optional 3-12")	Ductile Iron	ASTM A536 65-45-12
12	Cover	Ductile Iron	ASTM A536 65-45-12
13	Cover O-Ring	Buna N	-----
14	Stem Nut	Bronze	ASTM B584 C83600
15	Wedge	Gray Iron & SBR	ASTM A126 Cl B
16	Body - all types	Ductile Iron	ASTM A536 65-45-12
17	Pipe Plug (Optional Some Styles)	Stainless Steel	-----

Complies with applicable requirements of AWWA C515

14"-24" R/W VALVE  
NRS ASSEMBLY MATERIAL LIST

**CLOW VALVE COMPANY**

MODEL 2638



ITEM	DESCRIPTION	MATERIAL	ASTM SPEC.
1	HEX HEAD BOLTS	ZINC PLATED STEEL	ASTM A307 GRADE B
2	FLAT WASHERS	ZINC PLATED STEEL	ASTM A307 GRADE B
3	OPERATING NUT OR HANDWHEEL	CAST IRON	ASTM A126 CLASS B
4	HEX HEAD BOLTS&NUTS	ZINC PLATED STEEL	ASTM A307 GRADE B
5	FOLLOWER PLATE	DUCTILE IRON	ASTM A536 GR. 64-45-12
6	STEM O-RING	BUNA-N	.....
7	FOLLOWER PLATE O'RING	BUNA-N	.....
9	BONNET BUSHING	BRONZE	ASTM B584 CDA 836
10	STEM	BRONZE	ASTM B584 CDA 867
11	HEX HEAD BOLTS&NUTS	ZINC PLATED STEEL	ASTM A307 GRADE B
12	COVER	DUCTILE IRON	ASTM A536 65-45-12
13	COVER O-RING	BUNA-N	.....
14	STEM NUT	BRONZE	ASTM B584 CDA 836
15	WEDGE	DUCTILE IRON / SBR	ASTM B536 65-45-12
16	BODY - ALL TYPES	DUCTILE IRON	ASTM A536 65-45-12
17	WEDGE PROTECTOR CAP-18"-THRU 24"	DELFIN	.....

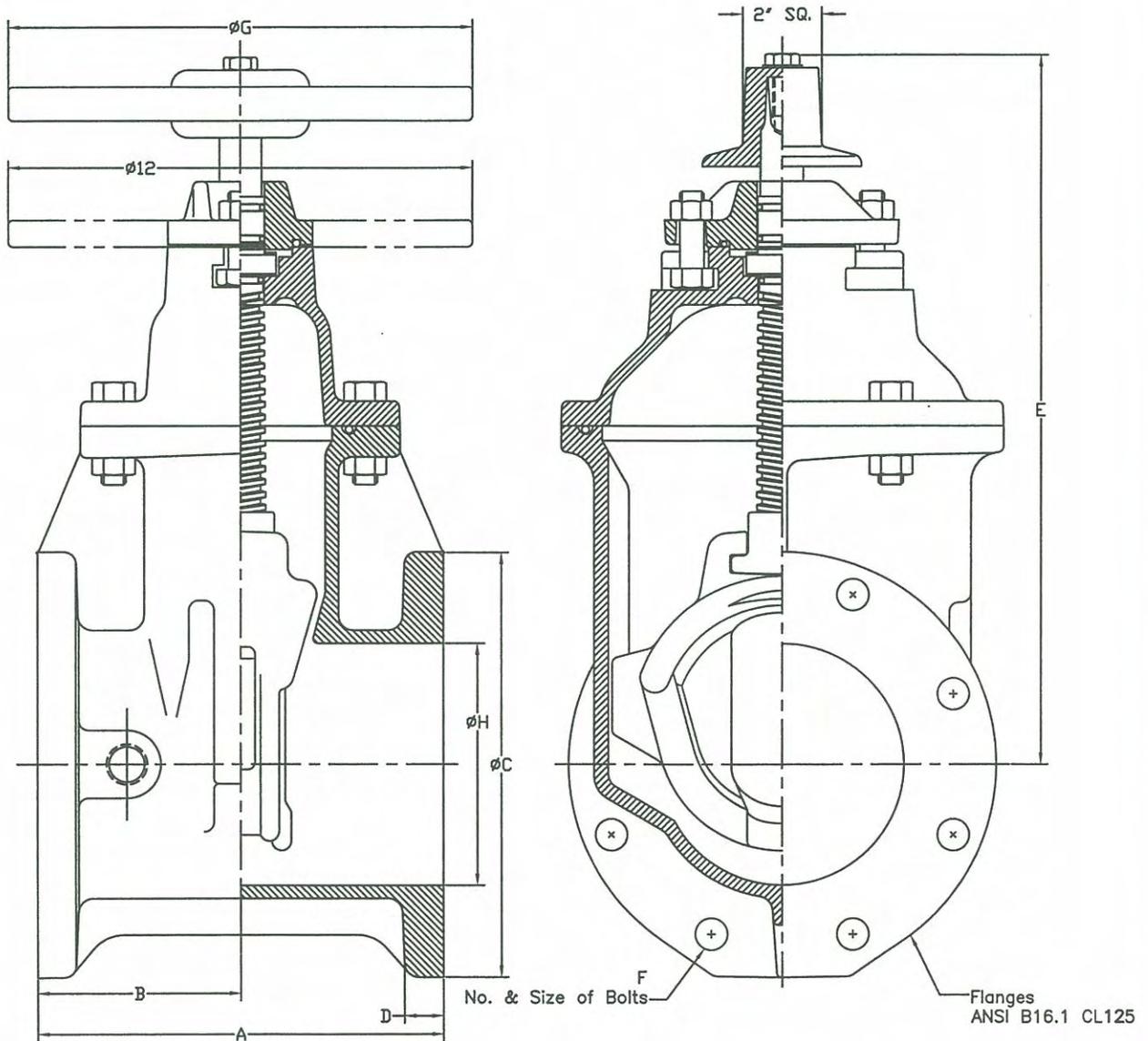
Complies with applicable requirements of AWWA C515

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

**CLOW VALVE COMPANY**

MODEL 2638

F-6102



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

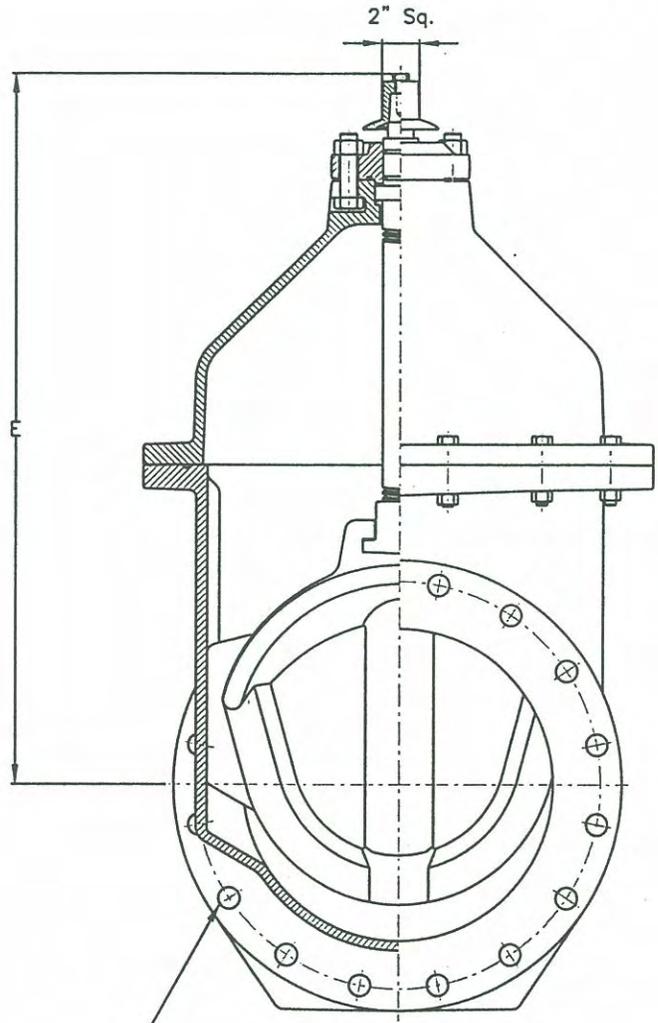
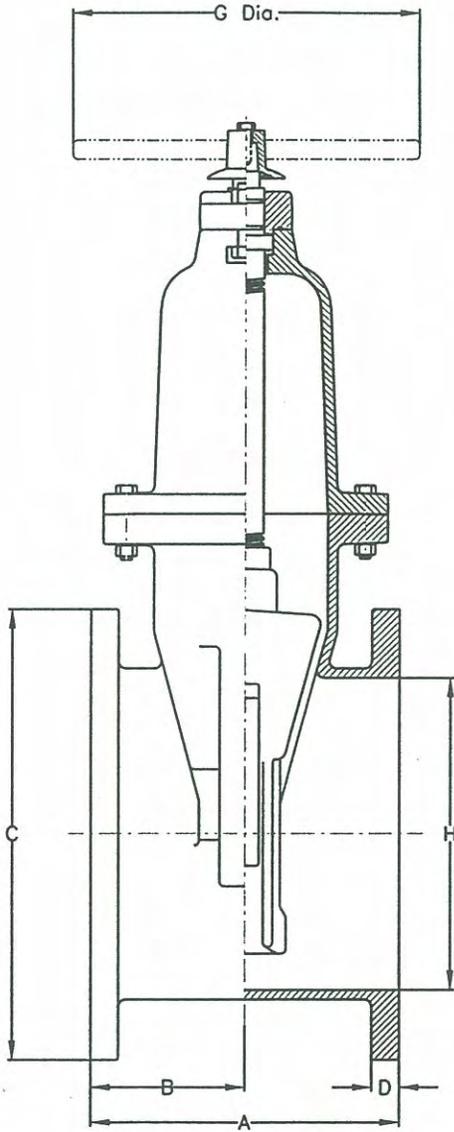
Complies with applicable requirements of AWWA C515

14"-16" R/W VALVE FLANGED ENDS  
GENERAL DIMENSION

**CLOW VALVE COMPANY**

MODEL 2638

F-6102



F No. & size of bolts  
Drilling per ANSI B16.1 class 125

VALVE SIZE	A	B	C	D	E	F	G	H
14	15	7.5	21	1.38	37.75	12-1	26	14.25
16	16	8	23.5	1.44	37.75	16-1	26	16.25

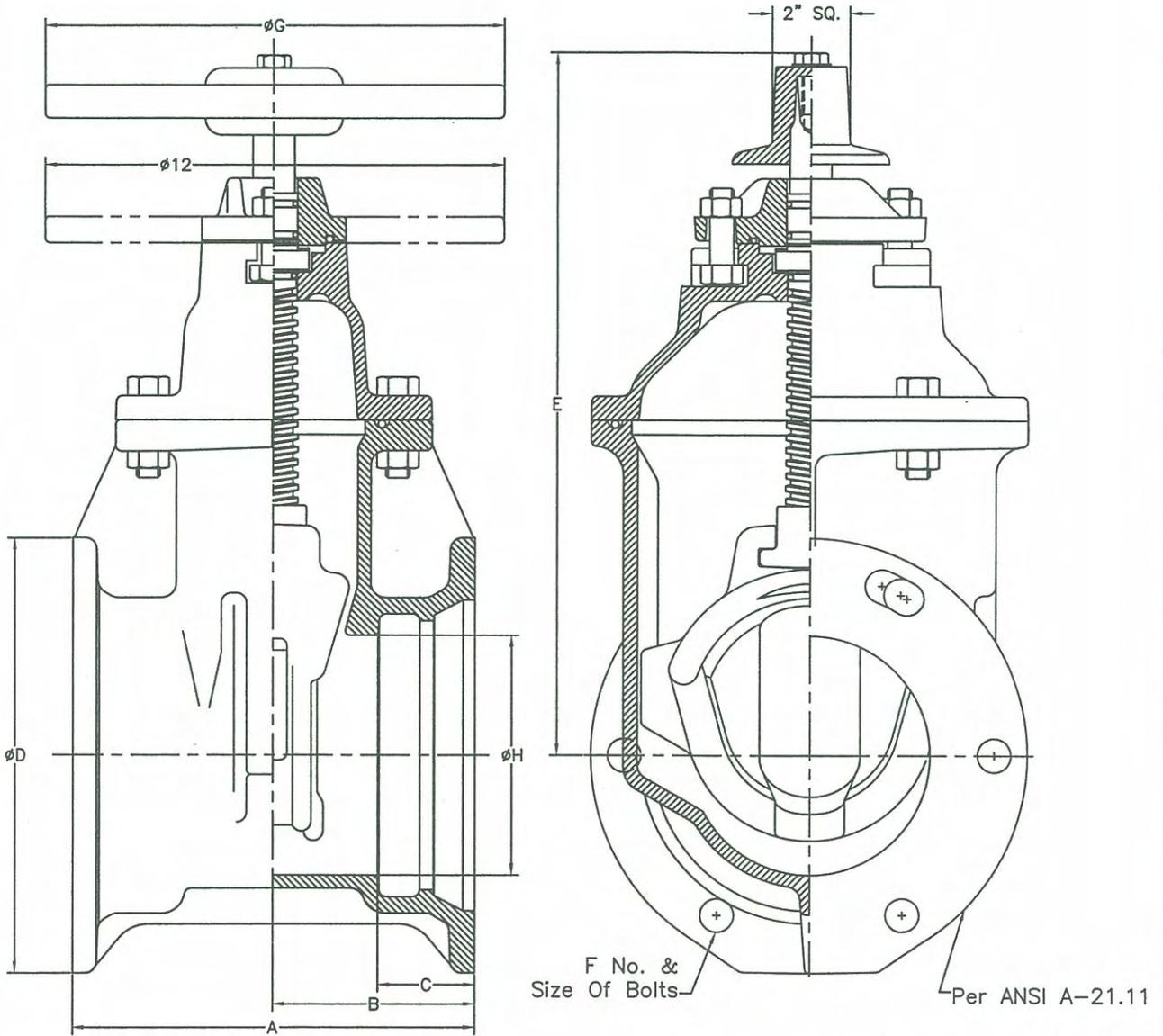
Complies with applicable requirements of AWWA C515

4"-12" R/W VALVE MECHANICAL JOINT ENDS  
GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6100



VALVE SIZE	A	B	C	D	E	F	G	H
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 1/8	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

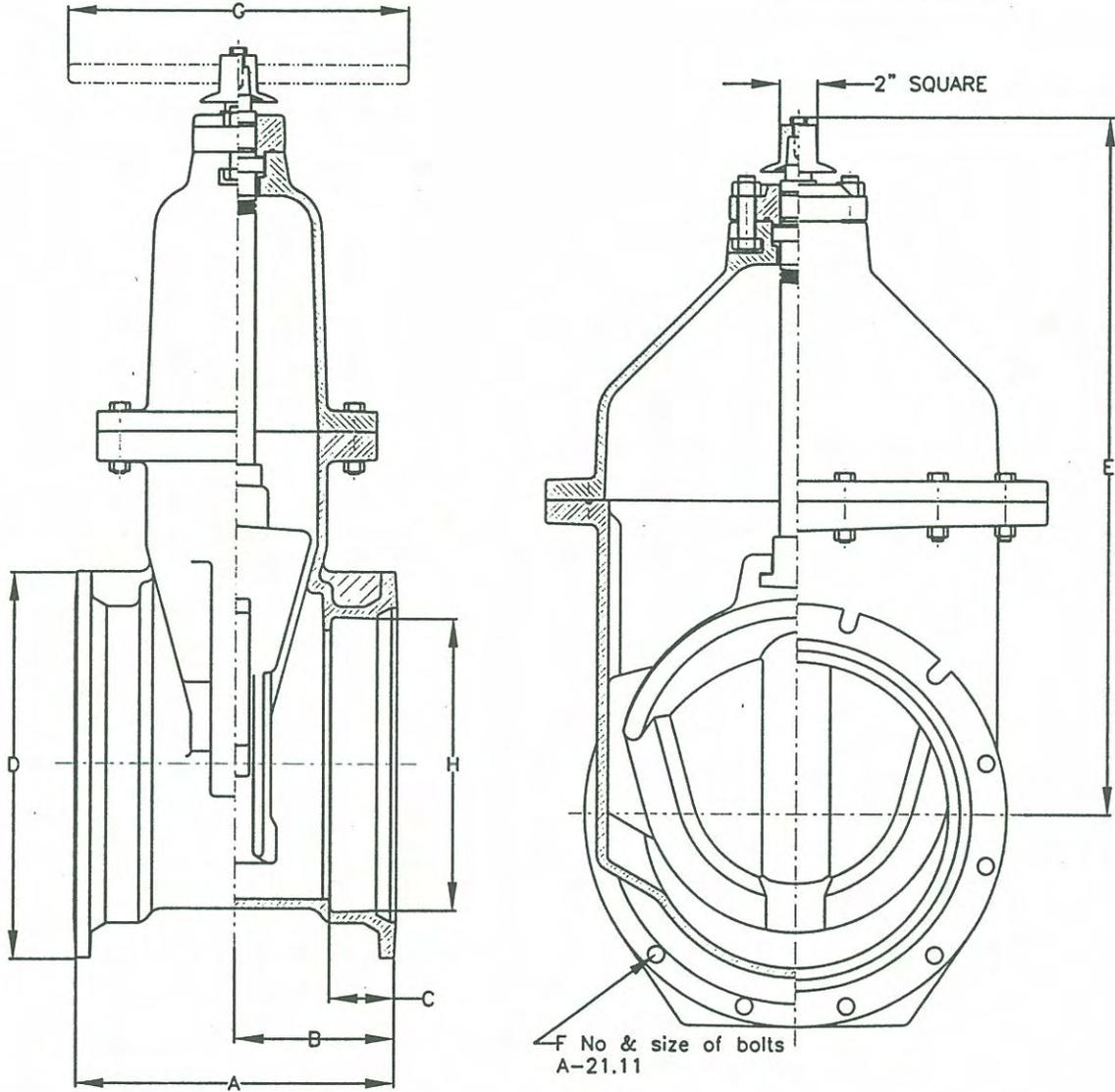
Complies with applicable requirements of AWWA C515

14"-16" R/W VALVE MJ ENDS  
GENERAL DIMENSION

**CLOW VALVE COMPANY**

MODEL 2638

F-6100



VALVE SIZE	A	B	C	D	E	F	G	H
14	17	8.5	3.5	20.25	37.75	10 <sup>-3/4</sup>	18	14 <sup>1/4</sup>
16	17	8.5	3.5	22.5	37.75	12 <sup>-3/4</sup>	18	16 <sup>1/4</sup>

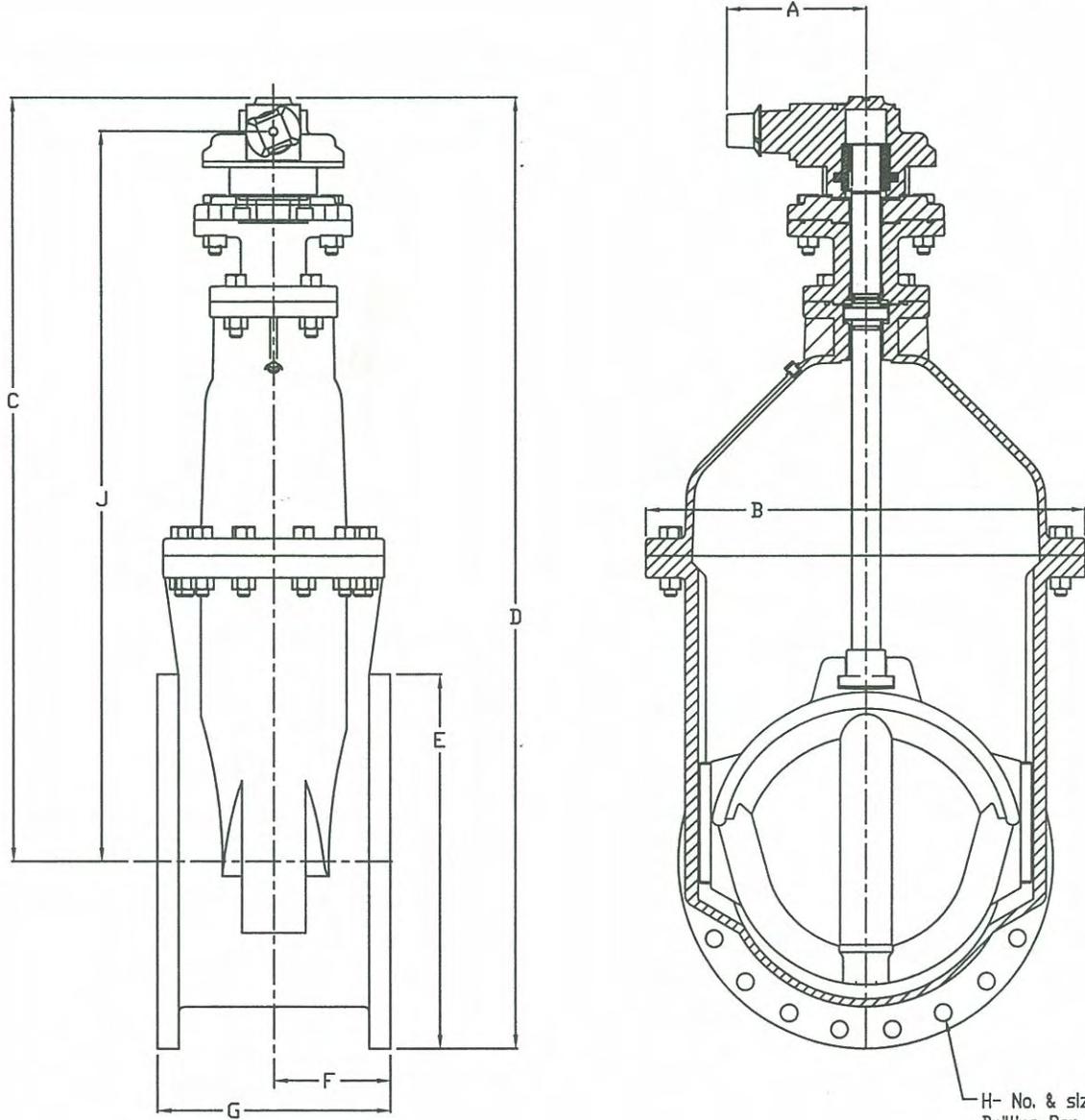
Complies with  
AWWA C515

14"-24" R/W VALVE FLANGED END  
BEVEL GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6102



H- No. & size of bolts  
Drilling Per ANSI B16.1  
Class 125

VALVE SIZE	A	B	C	D	E	F	G	H	J
14	9 1/8	26 11/16	48 5/8	59 1/2	21	7 1/2	15	12-1	46 3/8
16	9 1/8	26 11/16	47 5/8	59 1/2	23 1/2	7 1/2	15	16-1	45 3/8
18	10 1/8	32 1/4	55 3/4	68 1/4	25	8 1/2	17	16-1 1/8	53 3/4
20	10 1/8	32 1/4	54 3/4	68 1/4	27 1/2	8 1/2	17	20-1 1/8	52 3/4
24	10 1/8	36 1/2	60 3/8	76 1/4	32	10	20	20-1 1/4	57 7/8

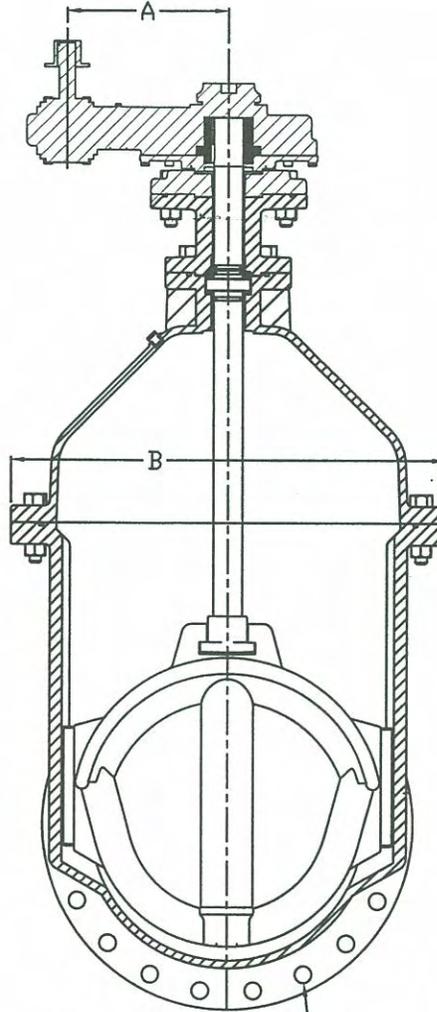
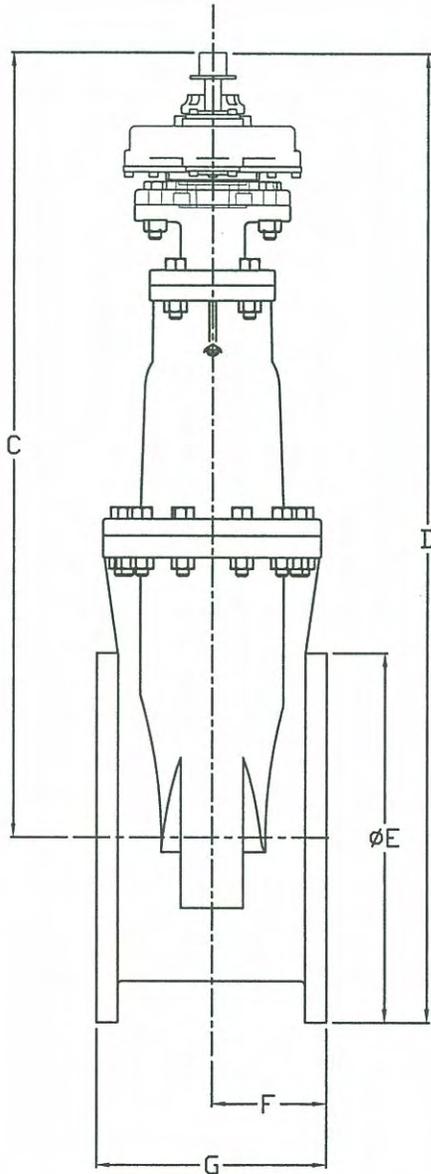
Complies with  
AWWA C515

14"-24" RW VALVE FLANGE  
SPUR GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6102



H - No. & size of bolts  
Drilling per ANSI B16.1  
Class 126

VALVE SIZE	A	B	C	D	E	F	G	H
14	8	26 11/16	52 1/8	63	21	7 1/2	15	12-1
16	8	26 11/16	51 1/8	63	23 1/2	7 1/2	15	16-1
18	12	32 1/4	58	70 1/2	25	8 1/2	17	16-1 1/8
20	12	32 1/4	57	70 1/2	27 1/2	8 1/2	17	20-1 1/8
24	12	36 1/2	62 5/8	78 1/2	32	10	20	20-1 1/4

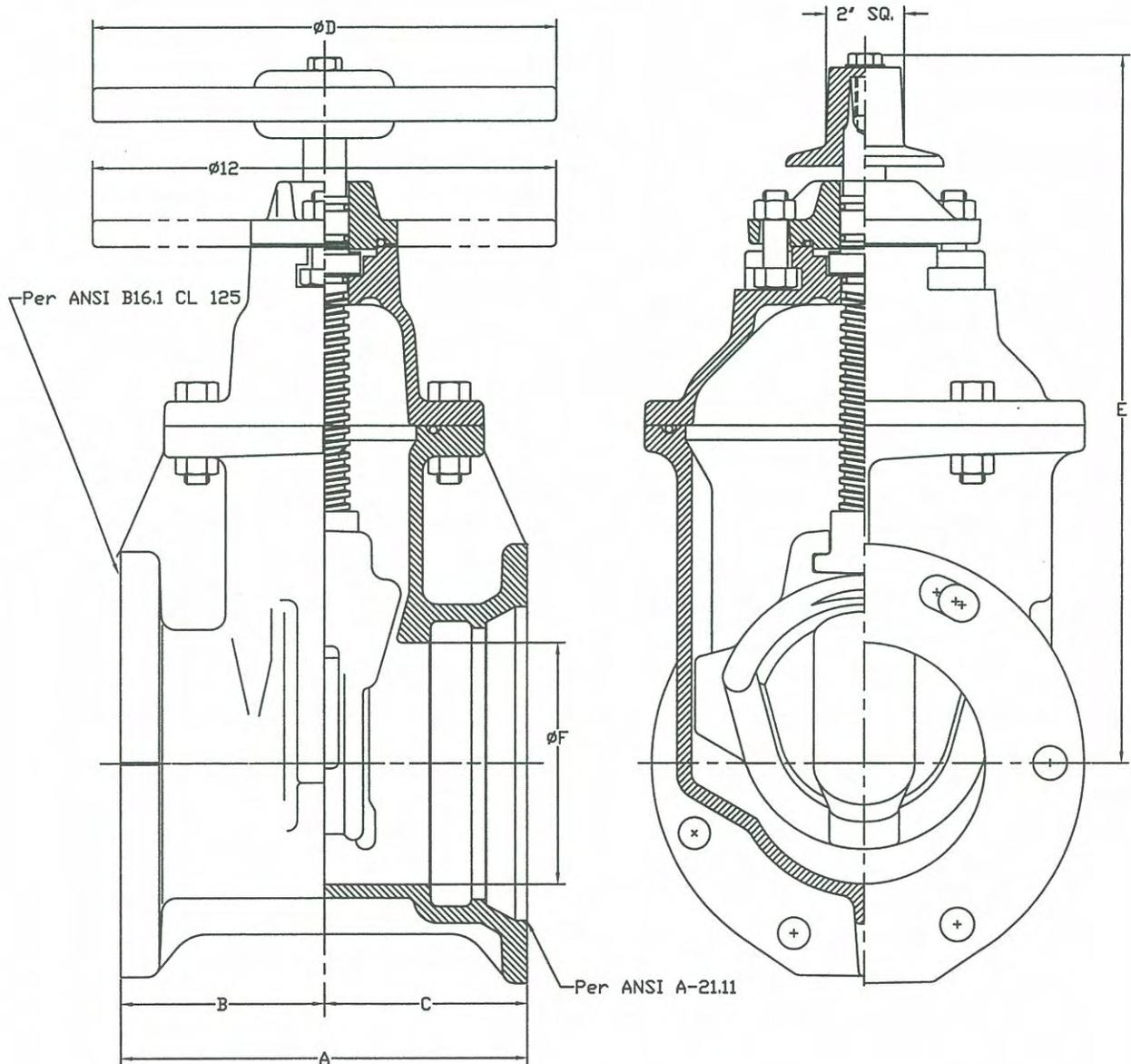
Valves comply with AWWA C515

4"-12" R/W VALVE NRS FLANGED x  
MECHANICAL JOINT ENDS GENERAL  
DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6106



VALVE SIZE	A	B	C	D	E	F
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

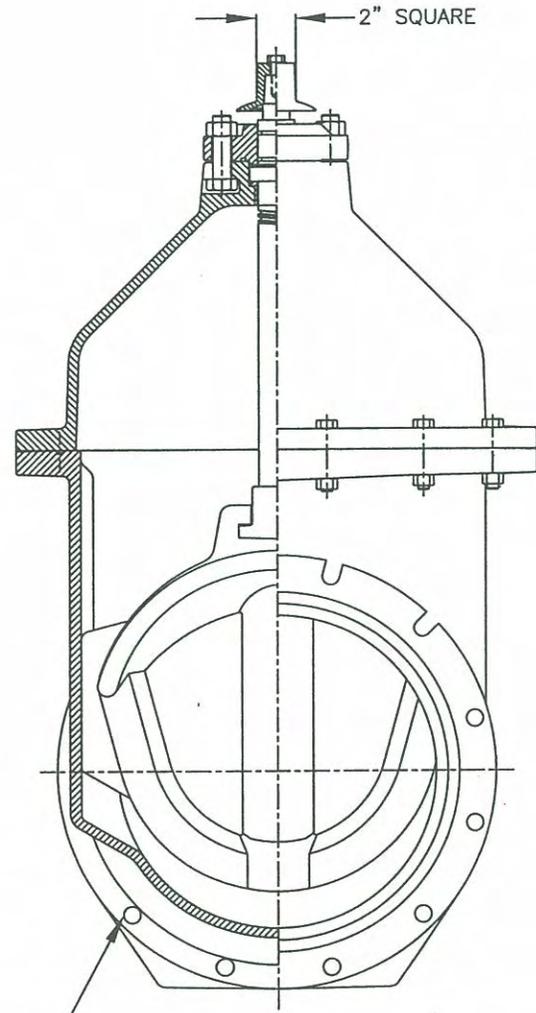
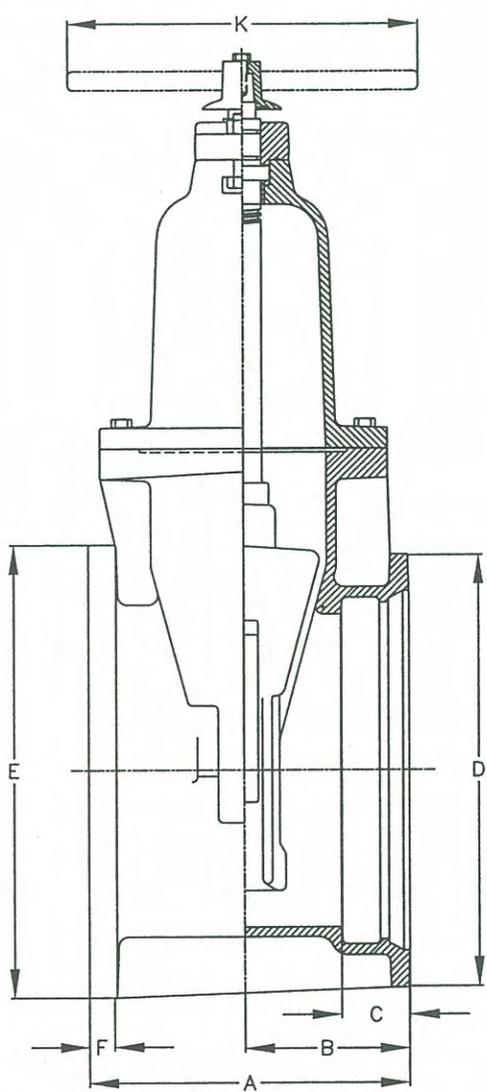
Complies with applicable requirements of AWWA C515

14"-24" R/W VALVE FLANGE X MJ ENDS  
GENERAL DIMENSION

**CLOW VALVE COMPANY**

MODEL 2638

F-6106



No. & size of bolts  
H- Flange Ends per ANSI B16.1  
J- MJ End per A21.1

VALVE SIZE	A	B	C	D	E	F	G	H	J	K
14	17	8.5	3.5	20.25	21	1.38	37.75	12-1	10-3/4	18
16	16.5	8.5	3.5	22.5	23.5	1.50	37.75	16-1	12-3/4	18

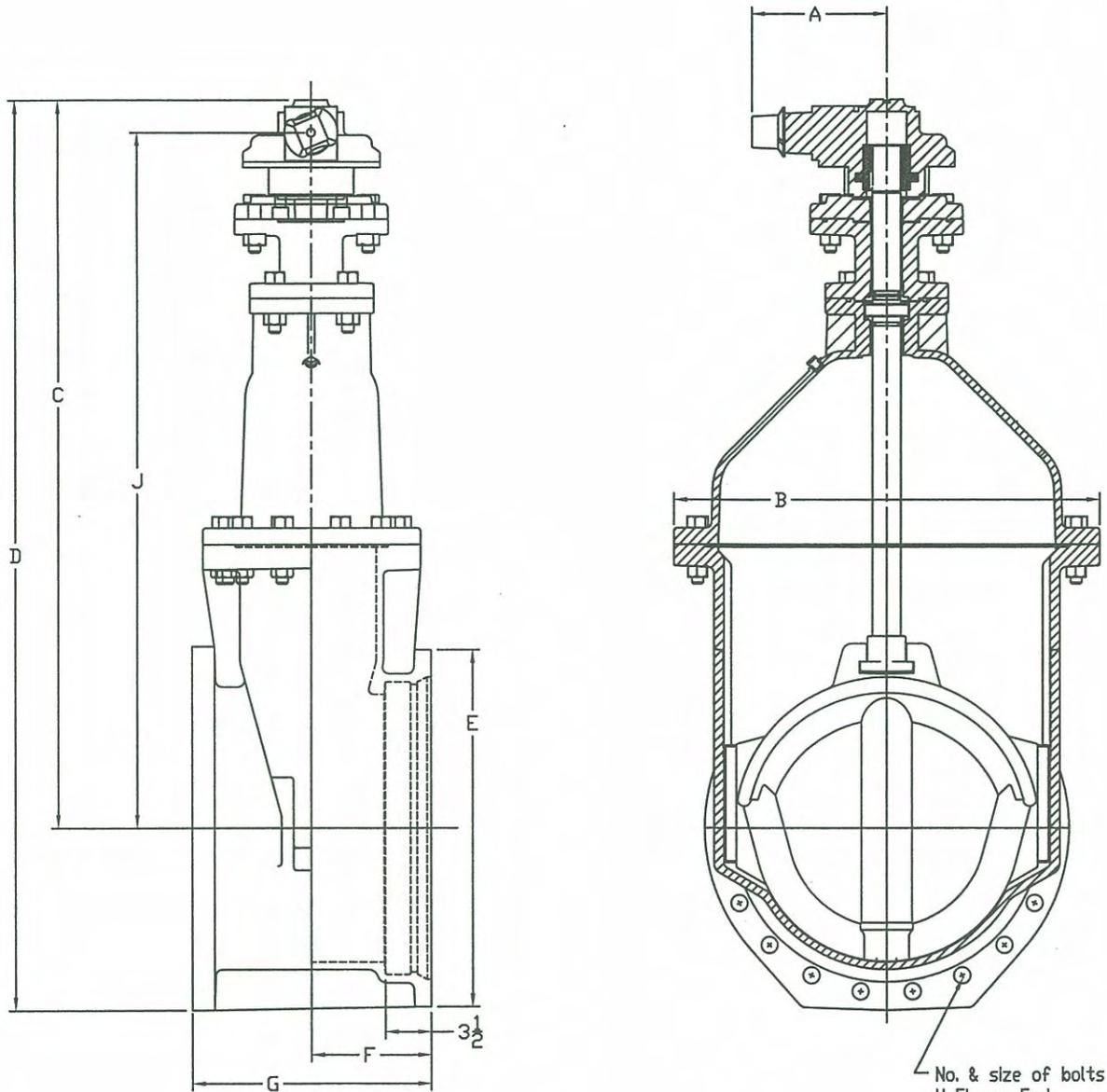
Complies with  
AWWA C515

14"-24" R/W VALVE MJ x FLANGE END  
BEVEL GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6106



No. & size of bolts  
H-Flange End  
K-MJ End

VALVE SIZE	A	B	C	D	E	F	G	H	J	K
14	9 1/8	26 11/16	48 5/8	59 1/2	20 1/4	8 1/2	17	12-1 1/8	46 3/8	10-3/4
16	9 1/8	26 11/16	47 5/8	59 1/2	22 1/2	8 1/2	16 1/2	16-1	45 3/8	12-3/4
18	10 1/8	32 1/4	55 3/4	68 3/4	24 3/4	9 3/8	18 3/8	16-1 1/8	53 3/4	12-3/4
20	10 1/8	32 1/4	54 3/4	68 3/4	27	9 5/32	18	20-1 1/8	52 3/4	14-3/4
24	10 1/8	36 1/2	59 7/8	75 1/8	31 1/2	9 1/2	20 1/4	20-1 1/4	57 3/8	16-3/4

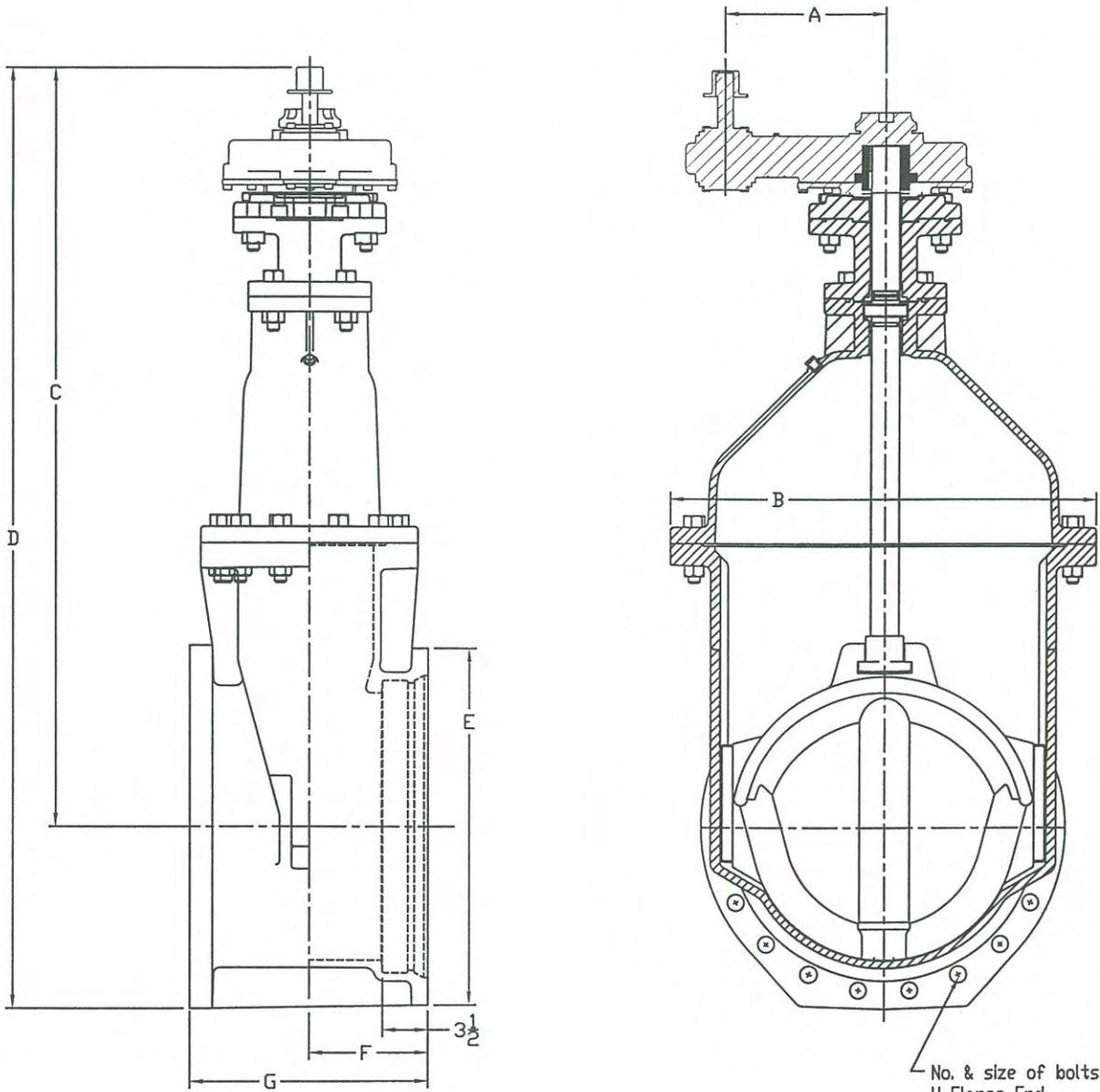
Complies with  
AWWA C515

14"-24" R/W VALVE MJ x FLANGE END  
SPUR GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6106



No. & size of bolts  
H-Flange End  
K-MJ End

VALVE SIZE	A	B	C	D	E	F	G	H	K
14	8	26 11/16	52 1/8	62 1/2	20 1/4	8 1/2	17	12-1 1/8	10-3/4
16	8	26 11/16	51 1/8	62 1/2	22 1/2	8 1/2	16 1/2	16-1	12-3/4
18	12	32 1/4	58	70 1/2	24 3/4	9 3/8	18 3/8	16-1 1/8	12-3/4
20	12	32 1/4	57	70 1/2	27	9 5/32	18	20-1 1/8	14-3/4
24	12	36 1/2	62 1/8	77 3/8	31 1/2	9 1/2	20 1/4	20-1 1/4	16-3/4

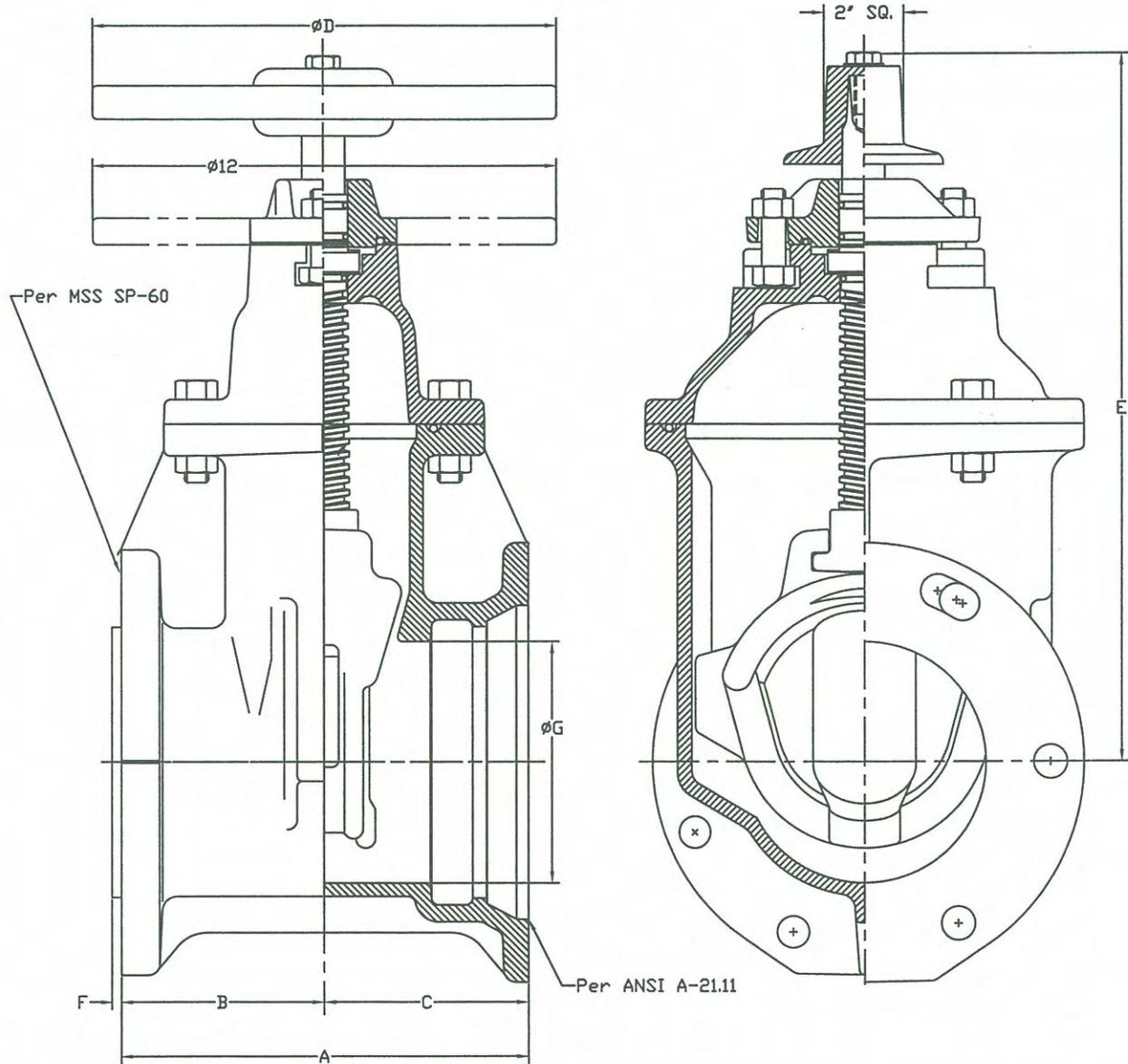
Valves comply with AWWA C515

4"-12" R/W VALVE NRS TAP x  
MECHANICAL JOINT ENDS GENERAL  
DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6114



VALVE SIZE	A	B	C	D	E	F	G
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

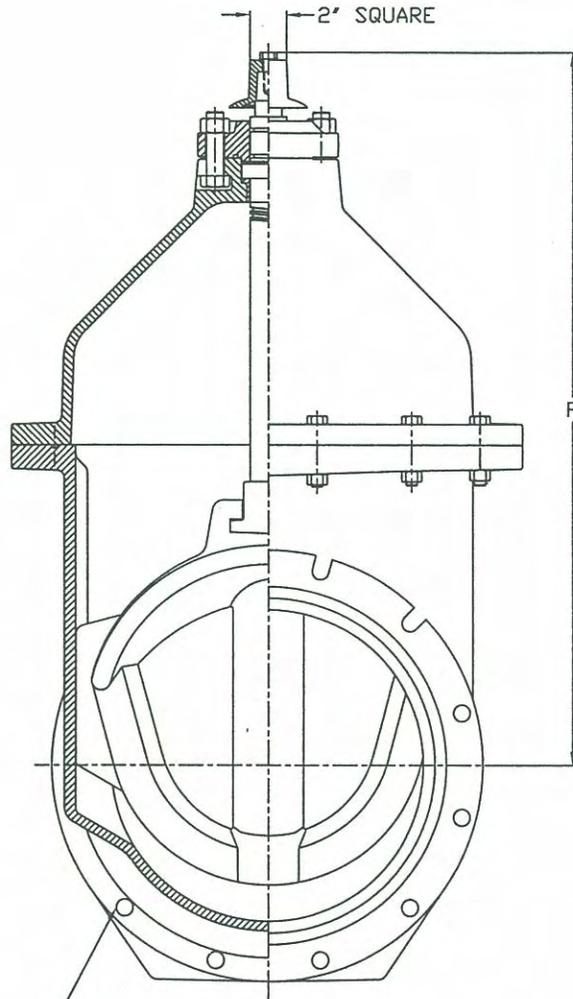
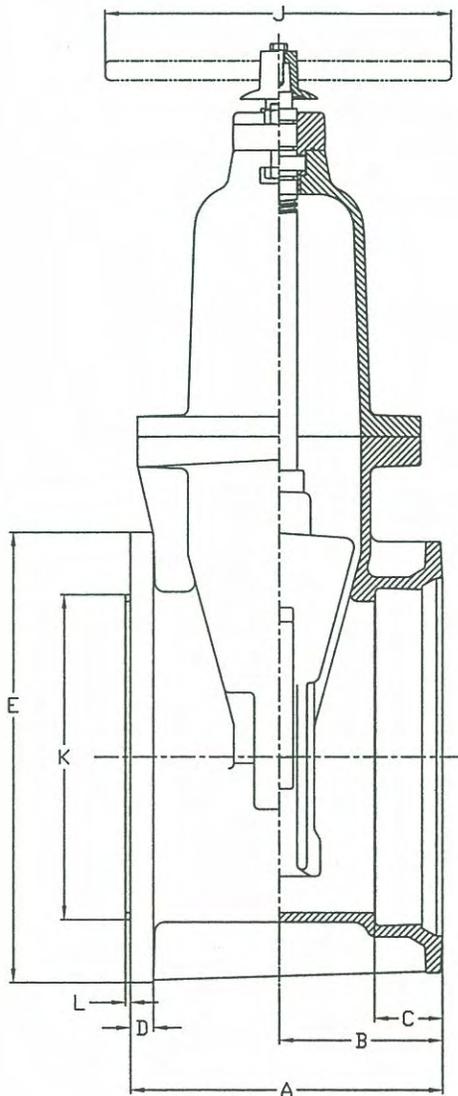
Complies with applicable requirements of AWWA C515

14"-16" R/W VALVE  
MJ TAPPING GENERAL DIMENSION

**CLOW VALVE COMPANY**

MODEL 2638

F-6114



No. & size of bolts  
G—Flange Ends per ANSI B16.1  
H—MJ Ends per A21.1

VALVE SIZE	A	B	C	D	E	F	G	H	J	K	L
14	16.75	8.5	3.5	1.18	21	37.75	21-1	10-3/4	18	14 <sup>15</sup> / <sub>16</sub>	1/4
16	16.25	8.5	3.5	1.25	23.5	37.75	16-1	12-3/4	18	16 <sup>15</sup> / <sub>16</sub>	1/4

EACH SIZE ACCOMMODATES A FULL SIZE DIA TAPPING CUTTER

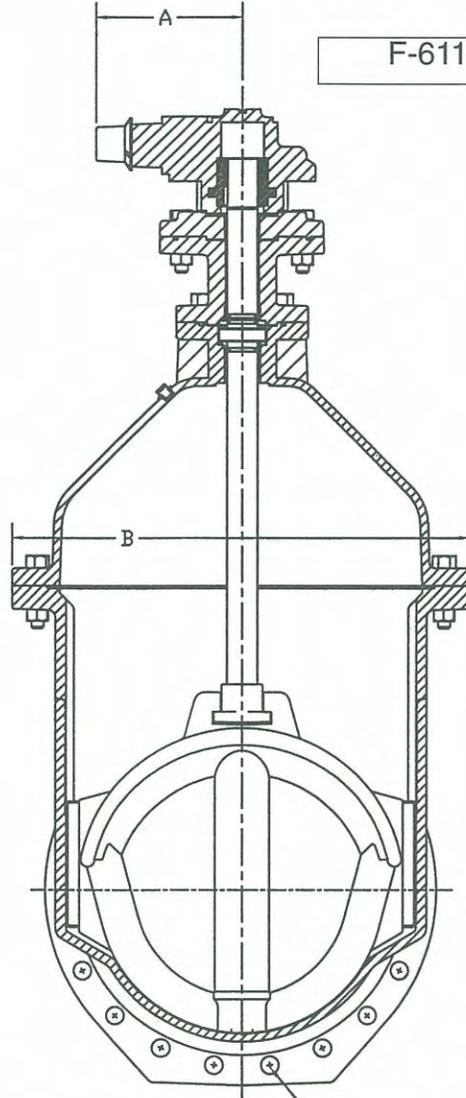
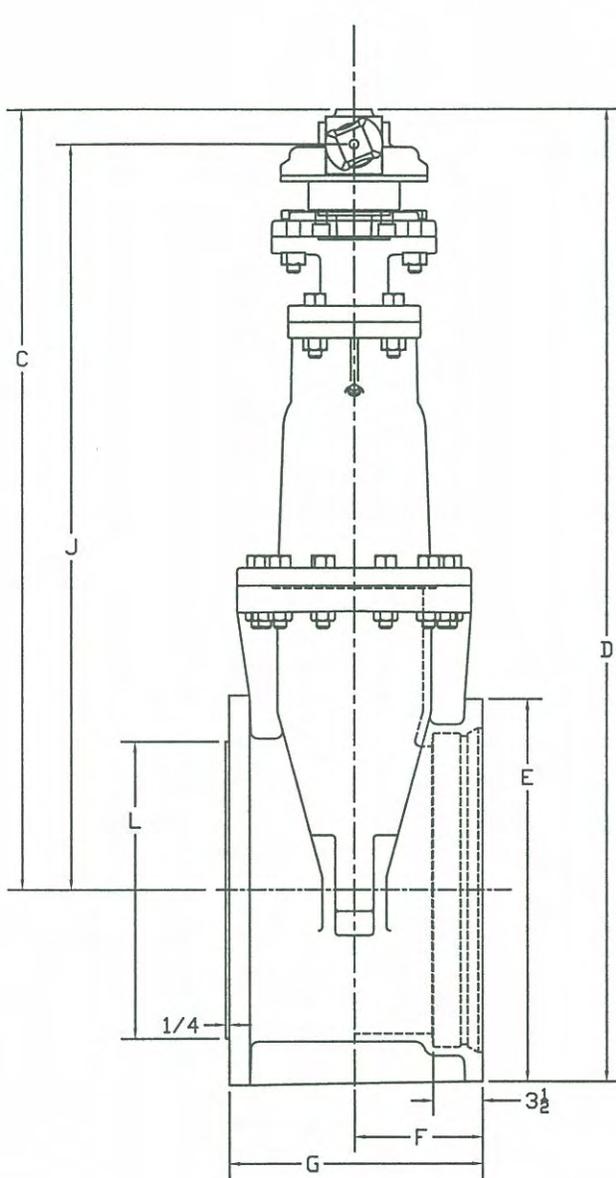
Complies with  
AWWA C515

14"-24" R/W VALVE MJ TAP END  
BEVEL GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6114



No. & size of bolts  
H-Flange End  
K-MJ End

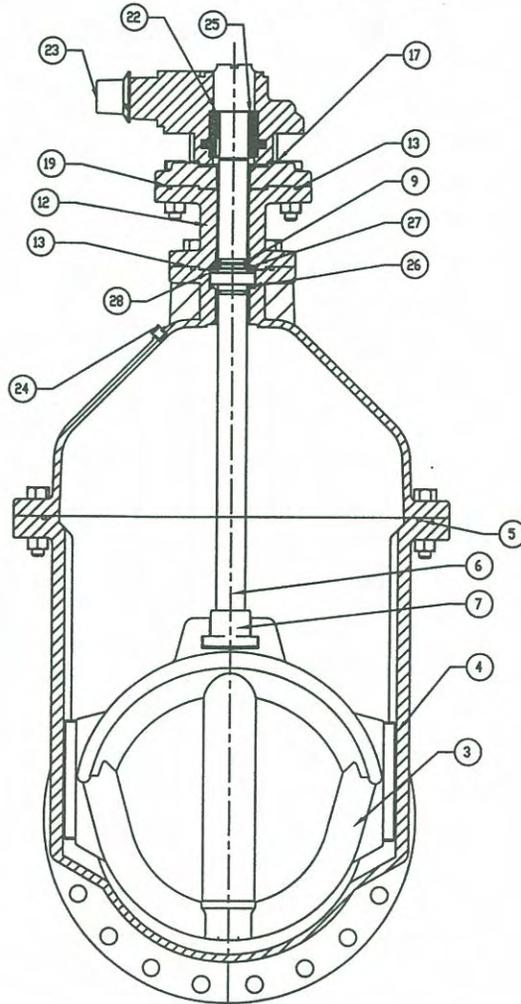
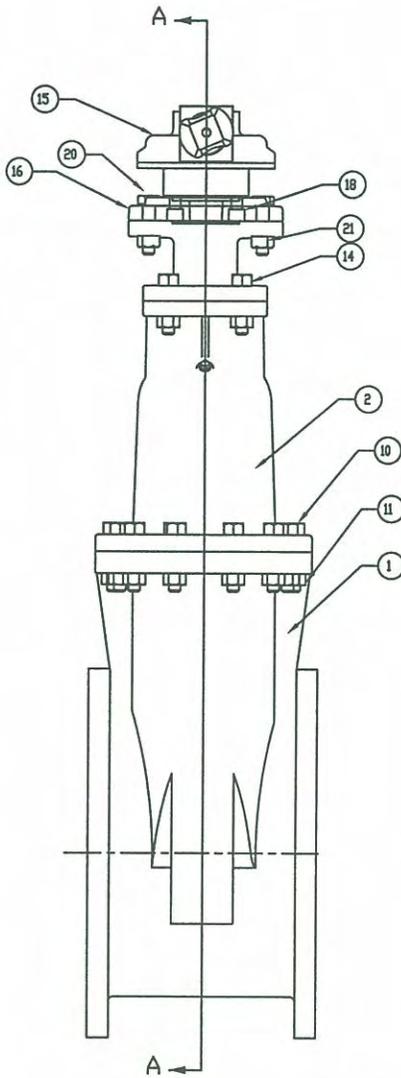
VALVE SIZE	A	B	C	D	E	F	G	H	J	K	L
14	9 1/8	26.69	48 5/8	59 1/2	20 1/4	8 1/2	16 3/4	12-1	46 3/8	10-3/4	14 15/16
16	9 1/8	26.69	47 5/8	59 1/2	22 1/2	8 1/2	17	16-1	45 3/8	12-3/4	16 15/16
18	10 1/8	32 1/4	55 3/4	68 3/4	24 3/4	9 3/8	18 1/8	16-1 1/8	53 3/4	12-3/4	18 15/16
20	10 1/8	32 1/4	54 3/4	68 3/4	27	9	18	20-1 1/8	52 3/4	14-3/4	20 15/16
24	10 1/8	36 1/2	59 7/8	75 1/8	31 1/2	10 1/2	20 1/2	20-1 1/4	57 3/8	16-3/4	24 15/16

EACH SIZE ACCOMMODATES A FULL SIZE DIA TAPPING CUTTER

Complies with  
AWWA C515

14"-24" RW VALVE  
BEVEL GEAR MATERIAL LIST  
**CLOW VALVE COMPANY**

MODEL 2638

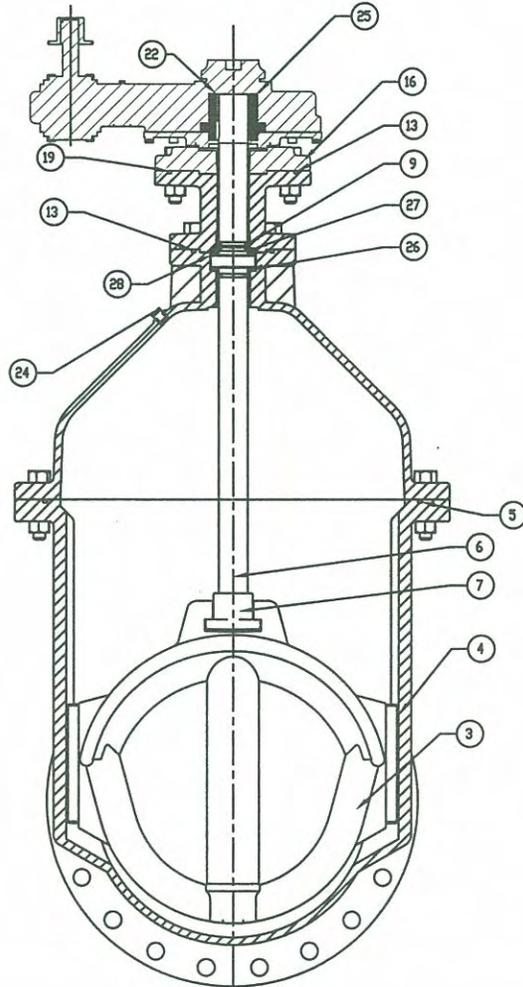
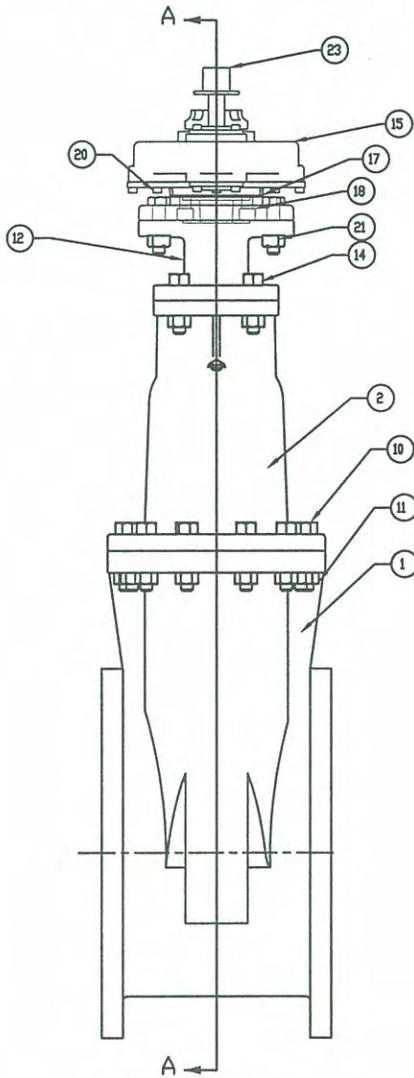


ITEM NO.	DESCRIPTION	MATERIAL	MATERIAL SPECIFICATION
1	Body	Ductile Iron	ASTM A536 65-45-12
2	Cover	Ductile Iron	ASTM A536 65-45-12
3	Wedge	Ductile Iron/Rubber	ASTM A536 65-45-12/SBR
4	Wedge Cap (18"-24" only)	Delrin	Delrin
5	Oring	Rubber	NBR
6	Stem	Bronze	ASTM B584 C86700
7	Stem Nut	Bronze	ASTM B584 C86700
9	Oring	Rubber	NBR
10	Hex Head Bolt	Zinc Chromate Plated Steel	ASTM A307 Gr B
11	Hex Nut	Zinc Chromate Plated Steel	ASTM A307 Gr B
12	Extension	Ductile Iron	ASTM A536 65-45-12
13	Oring	Rubber	NBR
14	Hex Head Bolt	Zinc Chromate Plated Steel	ASTM A307 Gr B
15	Actuator - 3:1 (18-24") 2:1 (14-16")		
16	Adaptor Plate	Ductile Iron	ASTM A536 65-45-12
17	Actuator Gasket	Rubber	NBR
18	Socket Head Bolt	Alloy Steel	Alloy Steel
19	Oring	Rubber	NBR
20	Hex Bolt	Zinc Chromate Plated Steel	ASTM A307 Gr B
21	Hex Nut	Zinc Chromate Plated Steel	ASTM A307 Gr B
22	Key	Steel	-----
23	Op Nut	Ductile Iron	ASTM A536 65-45-12
24	Pipe Plug	Steel	Steel
25	Drive Sleeve	Steel	AISI 1023
26	Cover Bushing	Bronze	ASTM B584 C86700
27	Extension Bushing	Bronze	ASTM B584 C86700
28	Thrust Bearing (18"-24" only)	Delrin	Delrin

Complies with  
AWWA C515

14"-24" RW VALVE  
SPUR GEAR MATERIAL LIST  
**CLOW VALVE COMPANY**

MODEL 2638



ITEM NO.	DESCRIPTION	MATERIAL	MATERIAL SPECIFICATION
1	Body	Ductile Iron	ASTM A536 65-45-12
2	Cover	Ductile Iron	ASTM A536 65-45-12
3	Wedge	Ductile Iron/Rubber	ASTM A536 65-45-12/SBR
4	Wedge Cap (18"-24" only)	Delrin	Delrin
5	Oring	Rubber	NBR
6	Stem	Bronze	ASTM B584 C86700
7	Stem Nut	Bronze	ASTM B584 C86700
9	Oring	Rubber	NBR
10	Hex Head Bolt	Zinc Chromate Plated Steel	ASTM A307 Gr B
11	Hex Nut	Zinc Chromate Plated Steel	ASTM A307 Gr B
12	Extension	Ductile Iron	ASTM A536 65-45-12
13	Oring	Rubber	NBR
14	Hex Head Bolt	Zinc Chromate Plated Steel	ASTM A307 Gr B
15	Actuator - 3:1 (18"-24") 2:1 (14-16")		
16	Adaptor Plate	Ductile Iron	ASTM A536 65-45-12
17	Actuator Gasket	Rubber	NBR
18	Socket Head Bolt	Alloy Steel	Alloy Steel
19	Oring	Rubber	NBR
20	Hex Bolt	Zinc Chromate Plated Steel	ASTM A307 Gr B
21	Hex Nut	Zinc Chromate Plated Steel	ASTM A307 Gr B
22	Key	Steel	-----
23	Op Nut	Ductile Iron	ASTM A536 65-45-12
24	Pipe Plug	Steel	Steel
25	Drive Sleeve	Steel	AISI 1023
26	Cover Bushing	Bronze	ASTM B584 C86700
27	Extension Bushing	Bronze	ASTM B584 C86700
28	Thrust Bearing (18"-24" only)	Delrin	Delrin

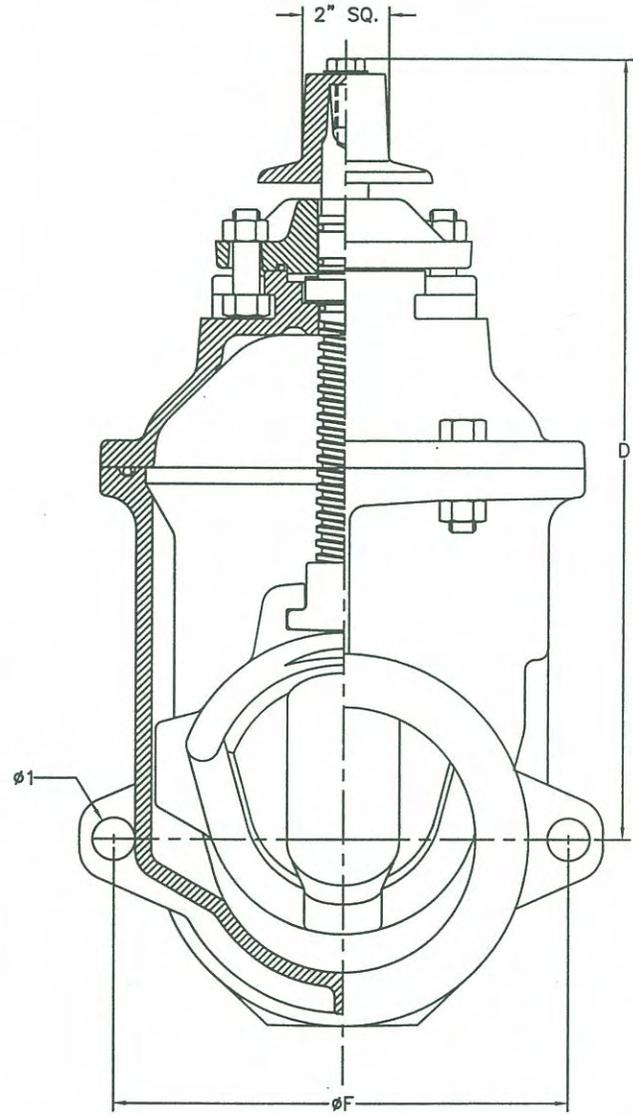
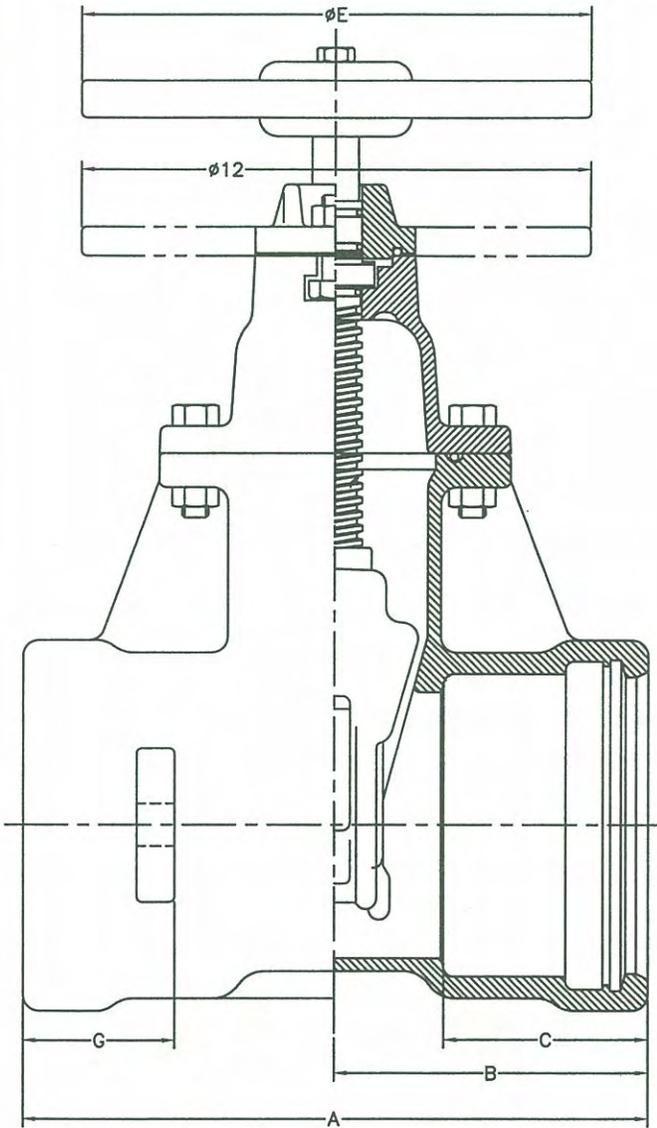
Complies with AWWA C515

4"-16" R/W VALVE TYTON ENDS  
NRS GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6112



VALVE SIZE	A	B	C	D	E	F	G
4	13 1/4	6 5/8	4.34	14 3/4	10	8.18	3 3/4
6	14 3/4	7 3/8	4.75	19	12	10.88	3 3/4
8	17 1/8	8 9/16	5.70	22 1/2	14	12.88	4 1/2
10	19 3/8	9 11/16	6.19	26 1/2	18	15.94	5 1/8
12	20 7/8	10 7/16	6.19	30	18	18.44	5 3/8
16	20 1/2	10 1/4	5	50	26	22.46	1 1/2

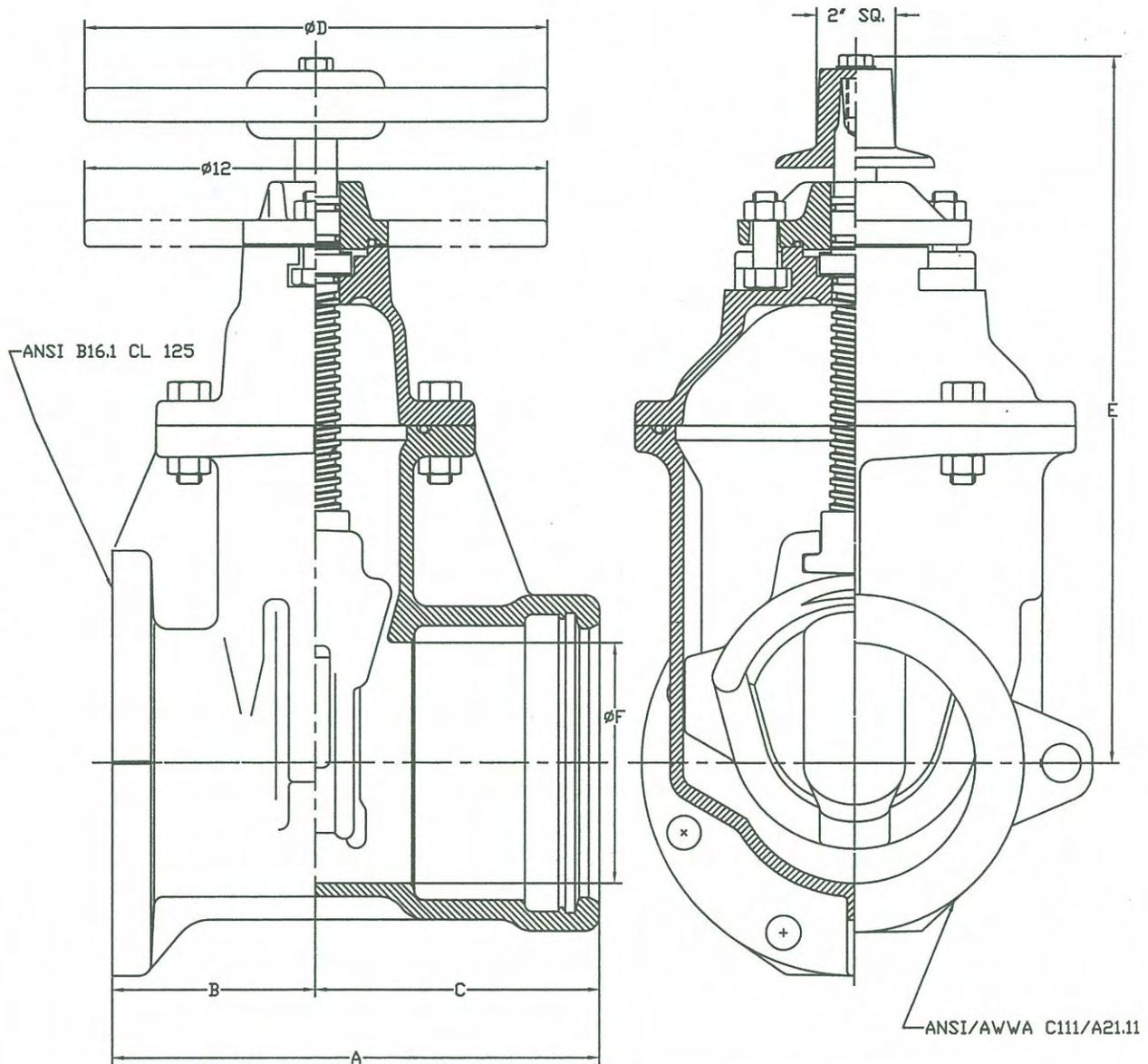
Valves comply with AWWA C515

4"-12" RW VALVE NRS FLANGE x  
TYTON ENDS GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6113



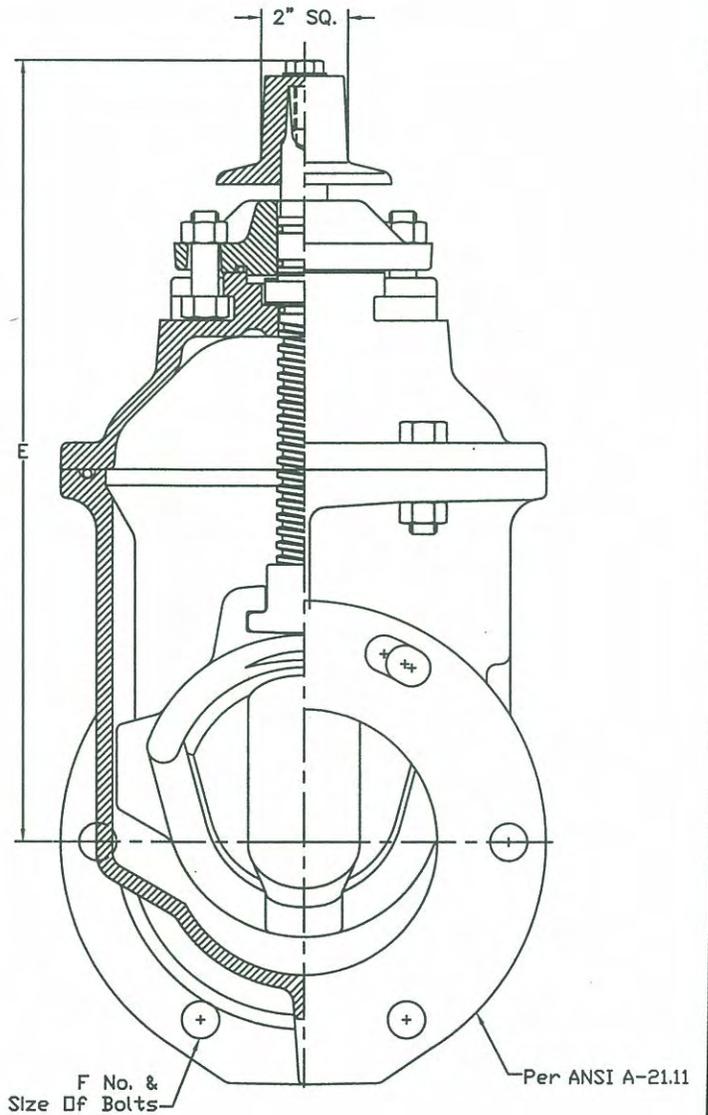
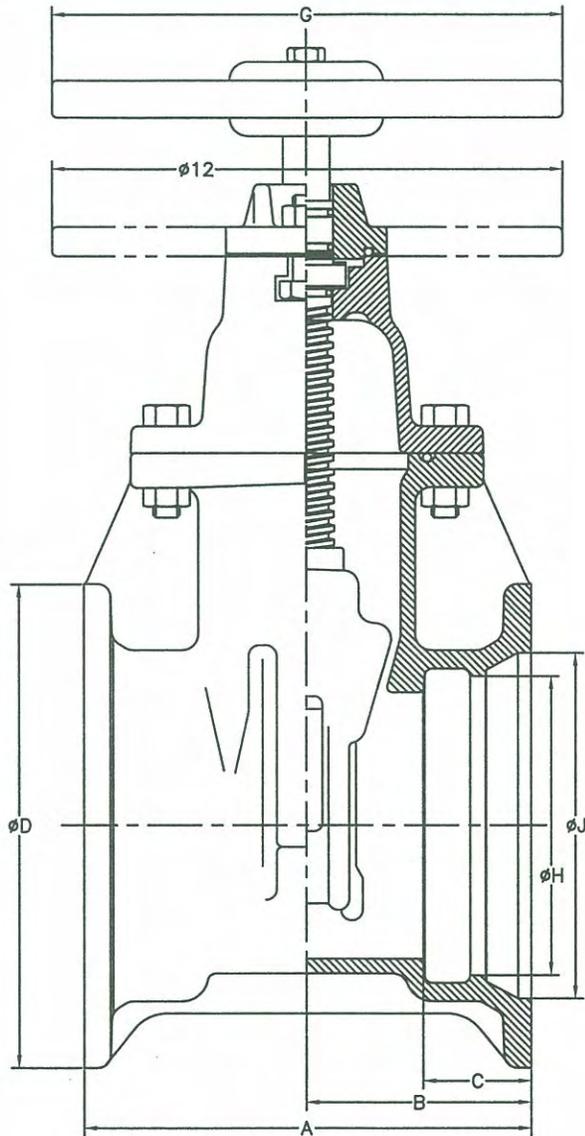
VALVE SIZE	A	B	C	D	E	F
4	11 1/8	4 1/2	6 5/8	10	14 3/4	4 1/4
6	12 5/8	5 1/4	7 3/8	12	19	6 1/4
8	14 5/16	5 3/4	8 9/16	14	22 1/2	8 1/4
10	16 3/16	6 1/2	9 11/16	18	26 1/2	10 1/4
12	17 7/16	7	10 7/16	18	30	12 1/4

Complies with applicable requirements of AWWA C515

4"-12" RW VALVE MECHANICAL CUT JOINT ENDS  
GENERAL DIMENSIONS  
**CLOW VALVE COMPANY**

MODEL 2638

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

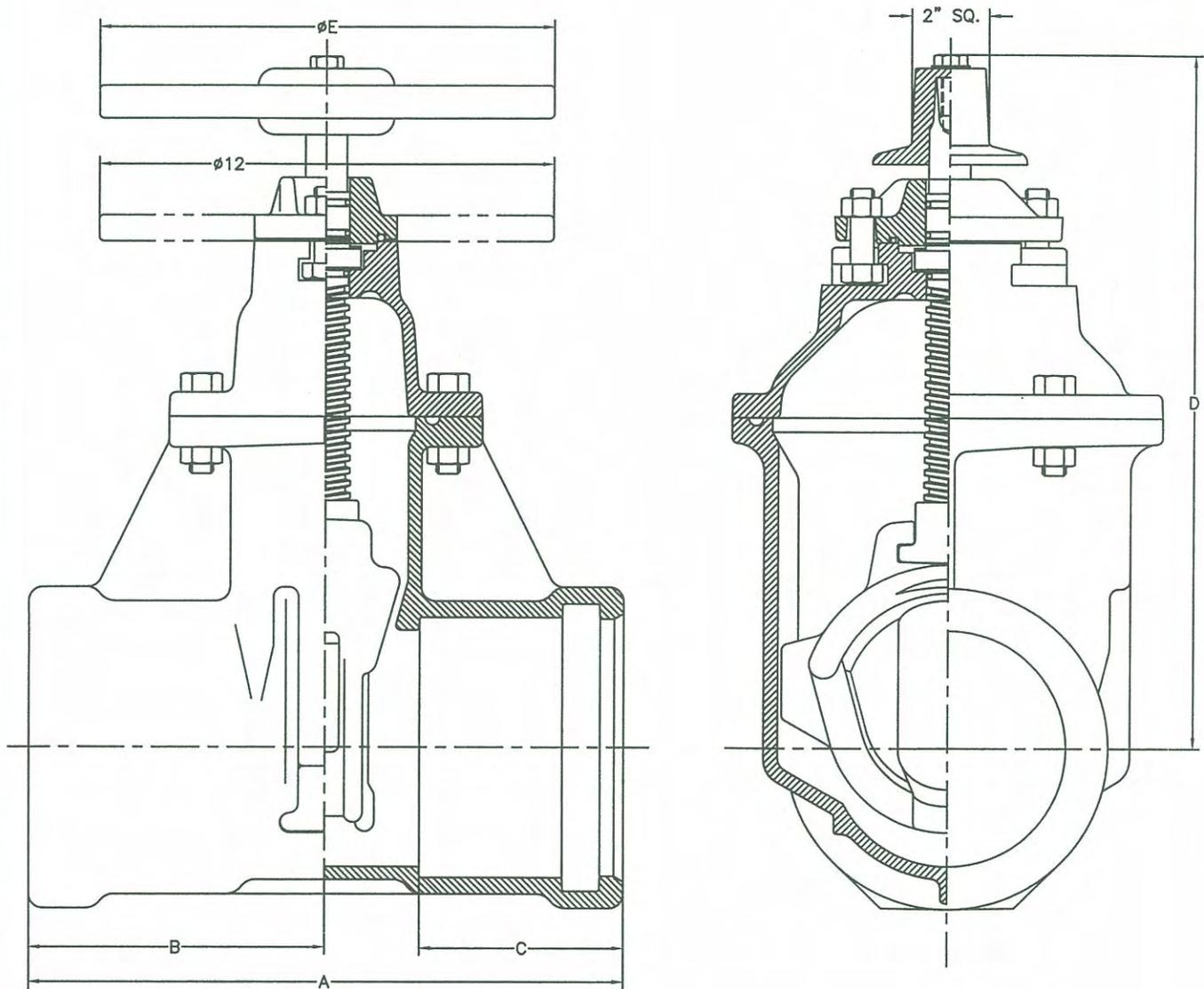
Complies with applicable requirements of AWWA C515

4"-8" R/W VALVE PVC ENDS  
NRS GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6110



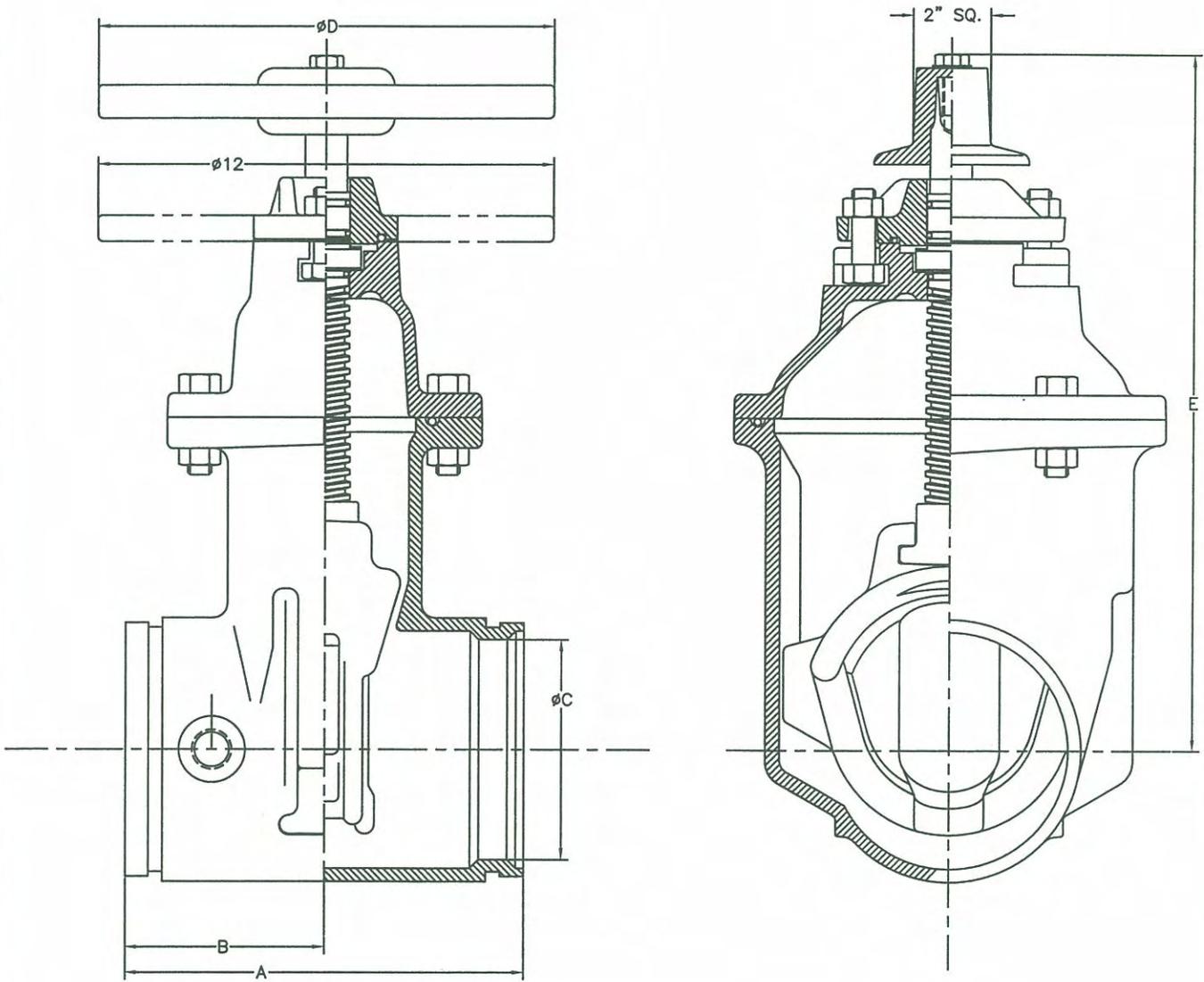
VALVE SIZE	A	B	C	D	E
4	13 1/2	6 3/4	4 1/2	14 3/4	10
6	15 3/4	7 7/8	5 3/8	19	12
8	16 1/4	8 1/8	5 3/8	22 1/2	14

Complies with applicable requirements of AWWA C515

4"-8" R/W VALVE GROOVE ENDS  
NRS GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638



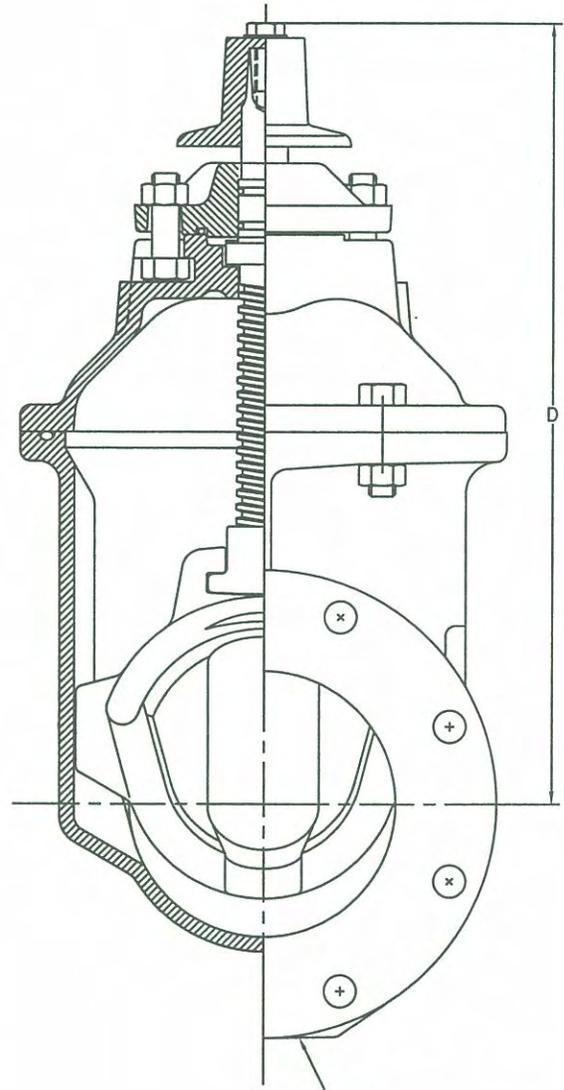
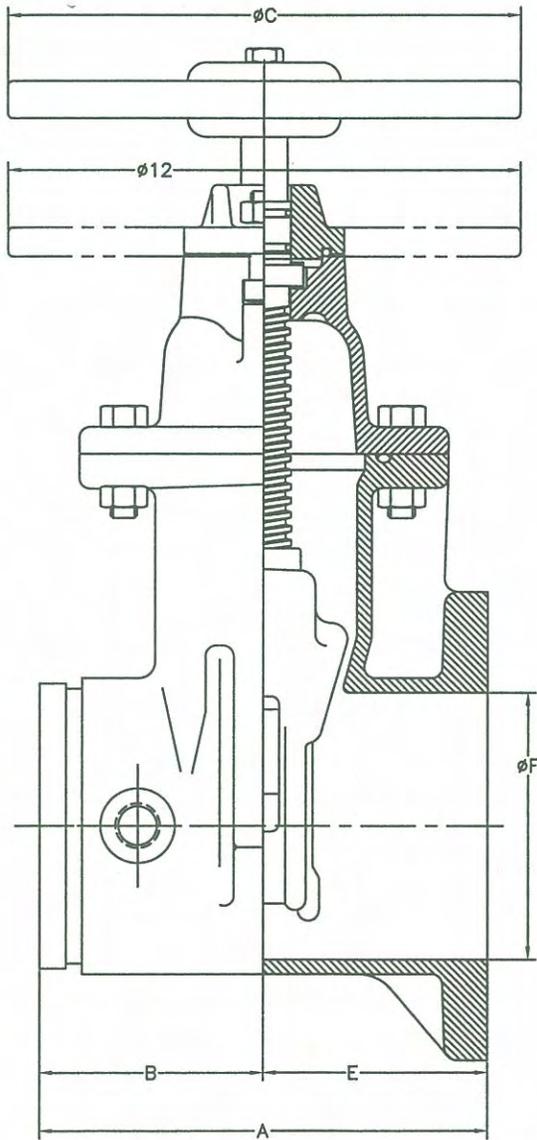
VALVE SIZE	A	B	C	D	E
4	9	4 1/2	3.75	10	14 3/4
6	10 1/2	5 1/4	5.80	12	19
8	11 1/2	5 3/4	7.67	14	22 1/2

Complies with applicable requirements of AWWA C515

4"-8" R/W VALVE GROOVE x FLANGE  
NRS GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638



Flanges  
ANSI B16.1 CL 125

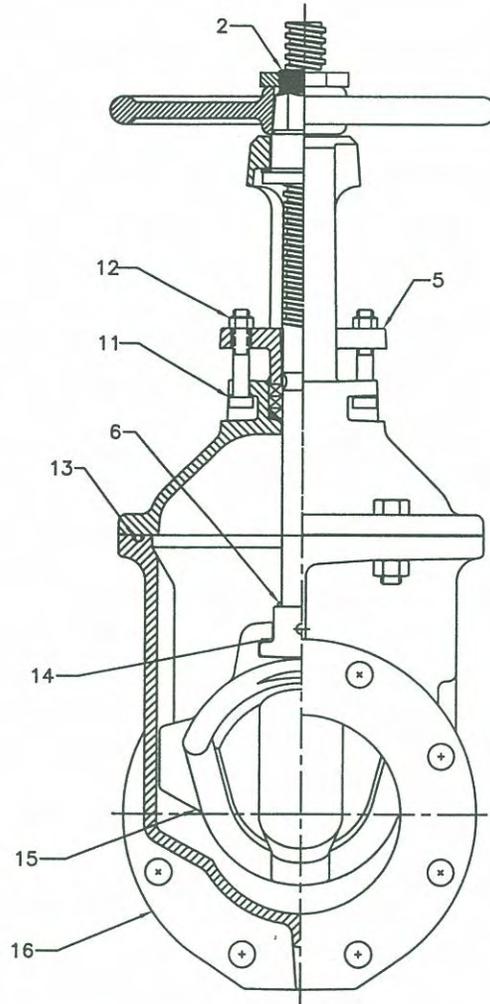
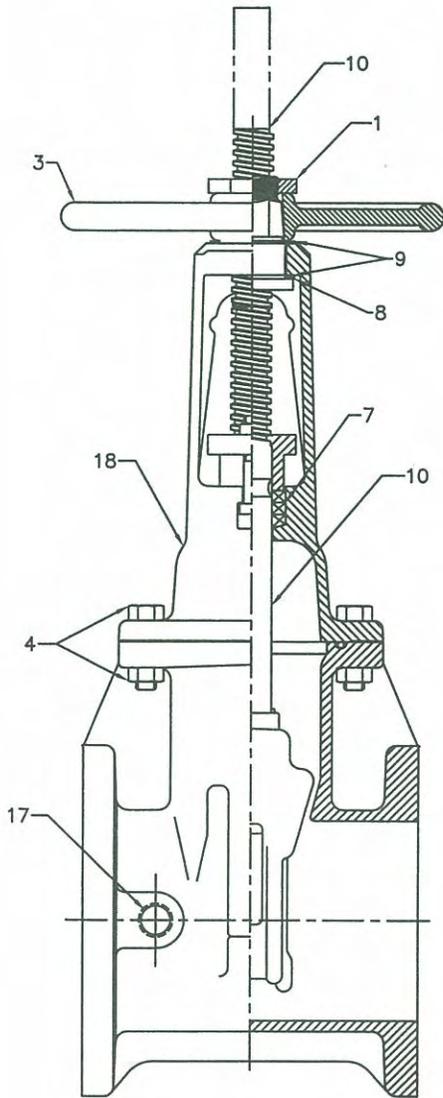
VALVE SIZE	A	B	C	D	E	F
4	9	4 1/2	10	14 3/4	4 1/2	4 1/4
6	10 1/2	5 1/4	12	19	5 1/4	6 1/4
8	11 1/2	5 3/4	14	22 1/2	5 3/4	8 1/4

Complies with applicable requirements of AWWA C515

4"-12" R/W VALVE  
MATERIAL LIST

**CLOW VALVE COMPANY**

MODEL 2638



ITEM	DESCRIPTION	MATERIAL	ASTM SPEC.
1	Handwheel Hold Down Nut	Bronze	ASTM B584 C83600
2	Top Stem Nut	Bronze	ASTM B584 C86700
3	Handwheel	Gray Iron	ASTM A126 CI B
4	Hex Head Bolts & Nuts	Zinc Plated Steel	ASTM A307 Gr B
5	Follower Gland	Gray Iron	ASTM A126 CI B
6	Stem O-Ring	Buna N	-----
7	Packing	Square Braided Polymer	-----
8	Thrust Washer Bearing	Delrin	-----
9	Thrust Washer (1 only on 4")	Bronze	ASTM B36 C260
10	Stem	Bronze	ASTM B584 C86700
11	Packing Bolts	Zinc Plated Steel	ASTM A307 Gr B
12	Packing Bolt Nuts	Brass	Commercial
13	Cover O-Ring	Buna N	-----
14	Stem Nut	Bronze	ASTM B584 C83600
15	Wedge	Gray Iron & SBR	ASTM A126 CI B
16	Body - all types	Ductile Iron	ASTM A536 65-45-12
17	Pipe Plug (Optional Some Styles)	Stainless Steel	-----
18	Cover	Ductile Iron	ASTM A536 65-45-12

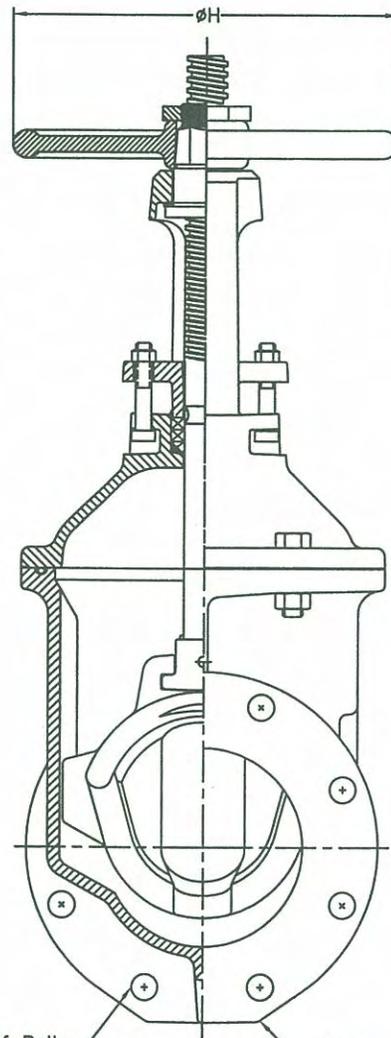
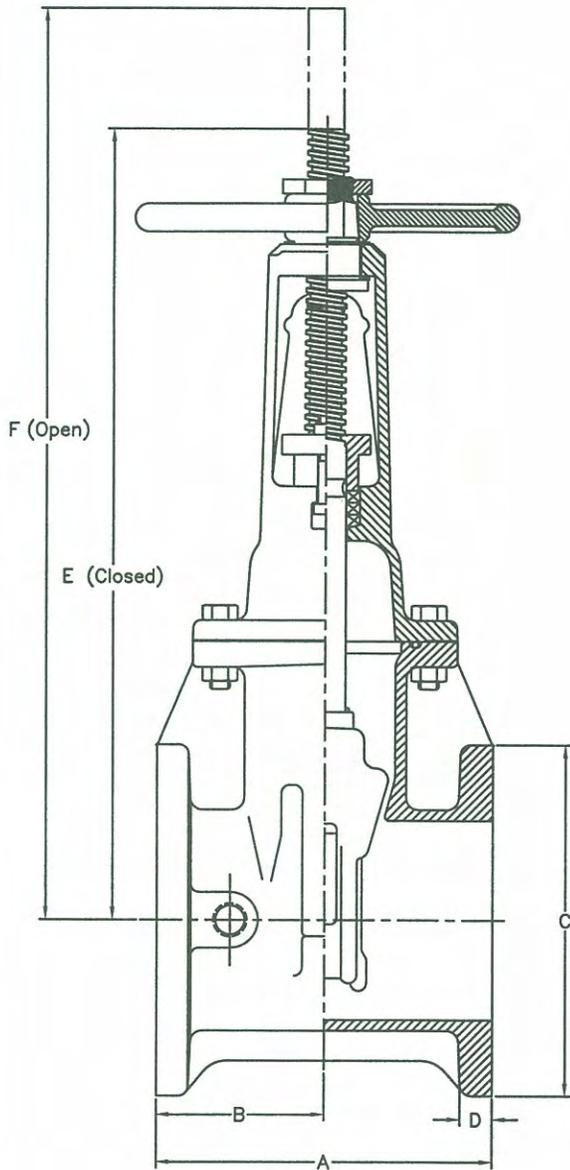
Complies with applicable requirements of AWWA C515

4"-12" R/W VALVE FLANGE ENDS  
OS&Y GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6136



G  
No. & Size Of Bolts

Flanges  
ANSI B16.1 CL 125

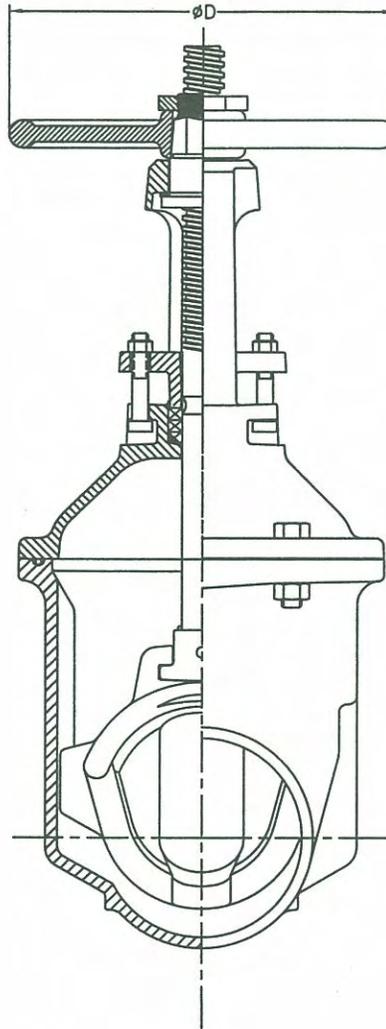
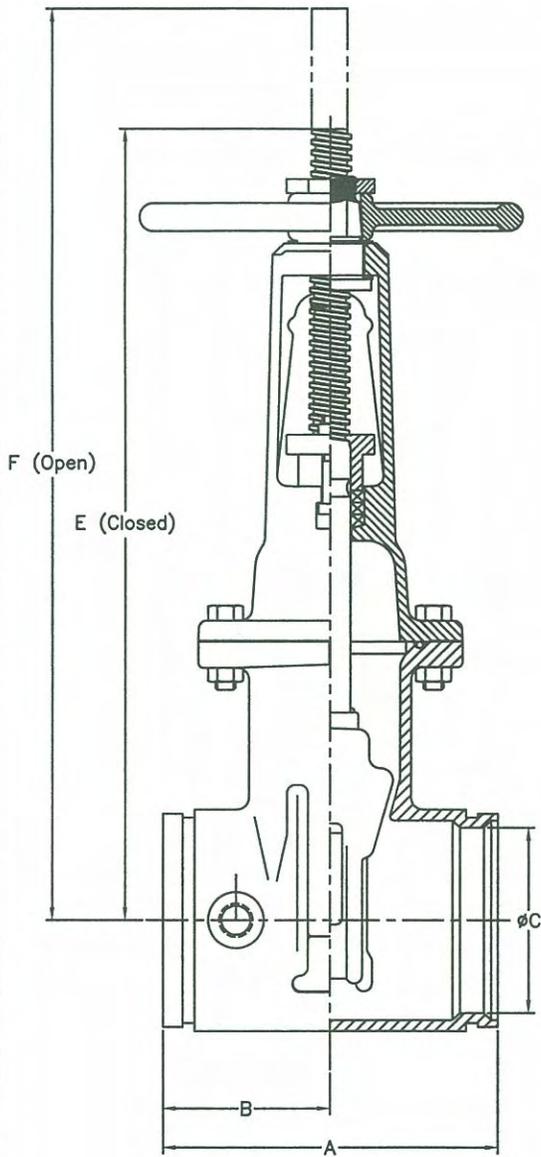
VALVE SIZE	A	B	C	D	E	F	G	H
4	9	4 1/2	9	15/16	18 1/4	22 3/4	8-5/8	10
6	10 1/2	5 1/4	11	1	23 3/4	30 1/8	8-3/4	12
8	11 1/2	5 3/4	13 1/2	1 1/8	29 1/4	37 3/4	8-3/4	14
10	13	6 1/2	16	1 3/16	35 3/8	45 3/4	12-7/8	18
12	14	7	19	1 1/4	40 5/8	53 1/8	12-7/8	18

Complies with applicable requirements of AWWA C515

4"-8" R/W VALVE GROOVE ENDS  
OS&Y GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638



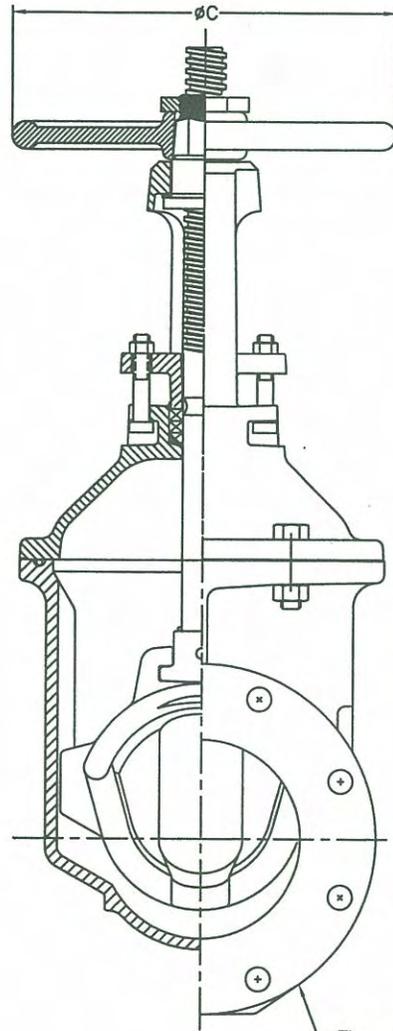
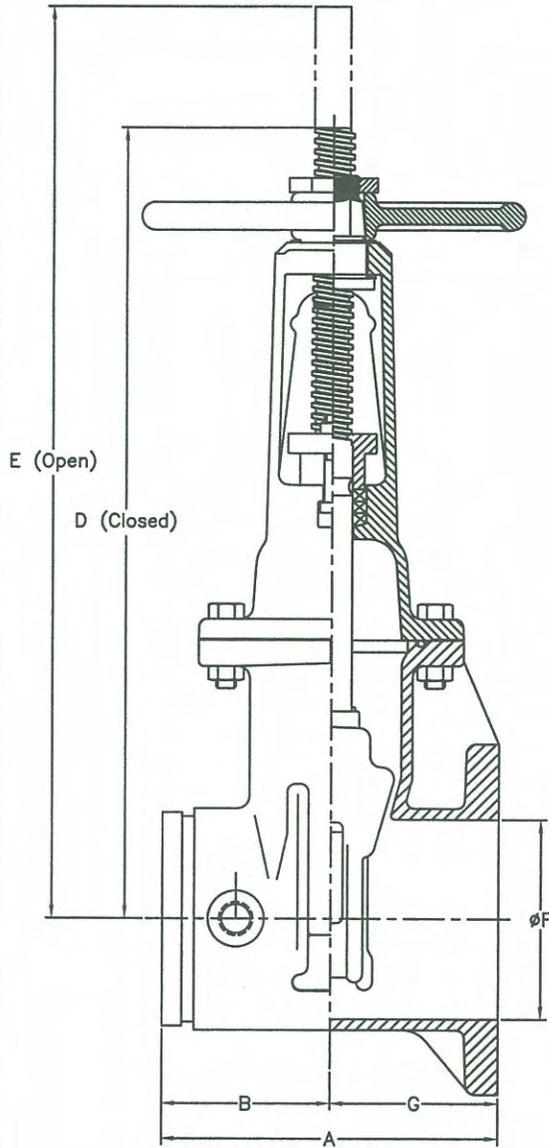
VALVE SIZE	A	B	C	D	E	F
4	9	4 1/2	3.75	10	18 1/4	22 3/4
6	10 1/2	5 1/4	5.80	12	23 3/4	30 1/8
8	11 1/2	5 3/4	7.67	14	29 1/4	37 3/4

Complies with applicable requirements of AWWA C515

4" -8" R/W VALVE FLANGE x GROOVE  
OS&Y GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638



Flanges  
ANSI B16.1 CL 125

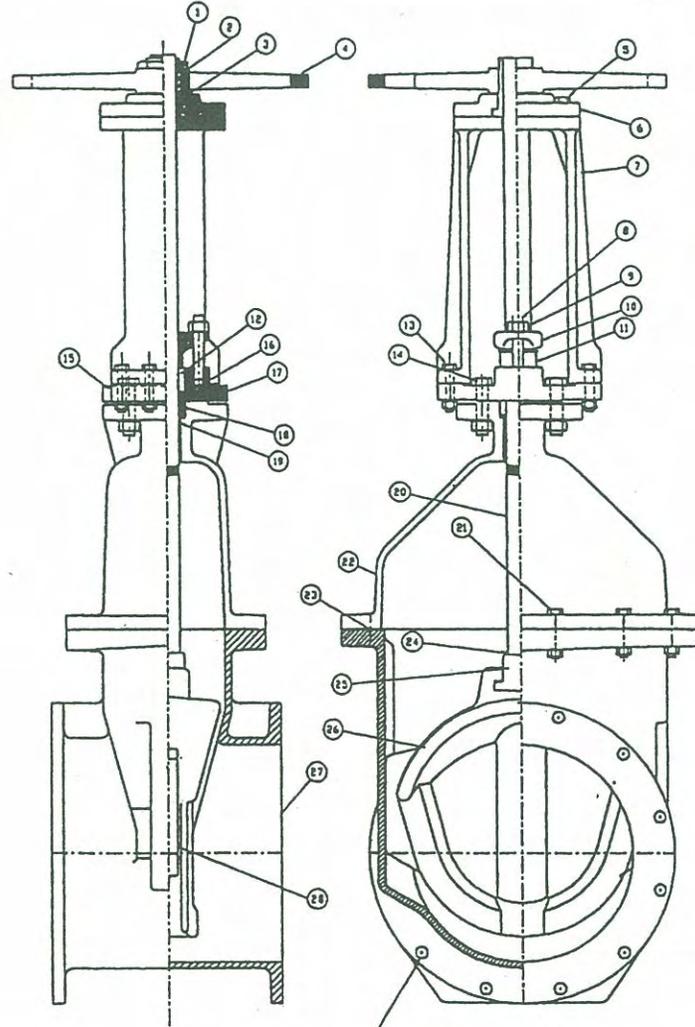
VALVE SIZE	A	B	C	D	E	F	G
4	9	4 1/2	10	18 1/4	22 3/4	4 1/4	4 1/2
6	10 1/2	5 1/4	12	23 3/4	30 1/8	6 1/4	5 1/4
8	11 1/2	5 3/4	14	29 1/4	37 3/4	8 1/4	5 3/4

Complies with applicable requirements of AWWA C515

14"-16" R/W VALVE OS&Y  
MATERIAL LIST

**CLOW VALVE COMPANY**

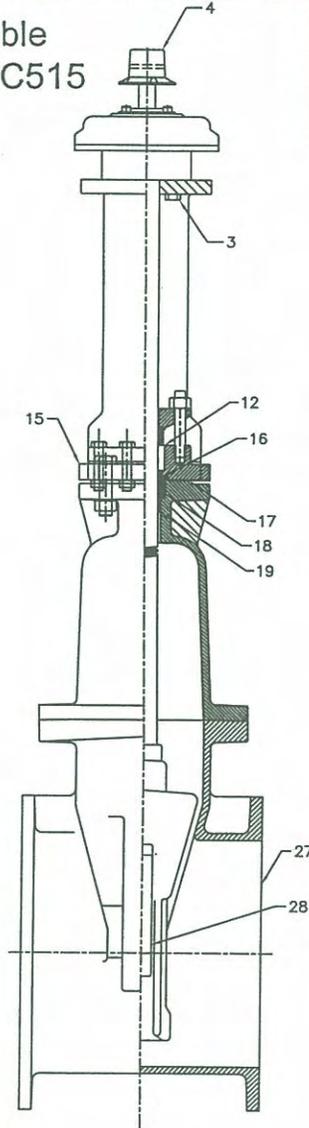
MODEL 2638



Drilling per ANSI B16.1  
Class 125

DET.	NAME OF PART	MATERIAL	DET.	NAME OF PART	MATERIAL
1	HOLD DOWN NUT	BRONZE	15	STUFING BOX	CAST IRON
2	KEY	STEEL	16	BUSHING-UPPER	BRONZE
3	TOP STEM NUT	BRONZE	17	GASKET	ACORAC
4	HANDWHEEL	CAST IRON	18	SPACER	BRONZE
5	CAPSCREW	ZINC PLATED STEEL	19	BUSHING-LOWER	BRONZE
6	ADAPTER	CAST IRON	20	STEM	BRONZE
7	YOKE	CAST IRON	21	CAPSCREW&NUT	ZINC PLATED STEEL
8	STUD	ZINC PLATED STEEL	22	COVER	DUCTILE IRON
9	HEX NUT	BRONZE	23	O-RING-COVER	BUNA-N
10	FOLLOWER	CAST IRON	24	O-RING-STEM	BUNA-N
11	GLAND	BRONZE	25	STEM NUT	BRONZE
12	PACKING	BRAIDED POLYMER	26	WEDGE	DUCTILE IRON / SBR
13	CAPSCREW&NUT	ZINC PLATED STEEL	27	BODY	DUCTILE IRON
14	CAPSCREW&NUT	ZINC PLATED STEEL	28	WEDGE CAP	DELFIN

Complies with applicable requirements of AWWA C515

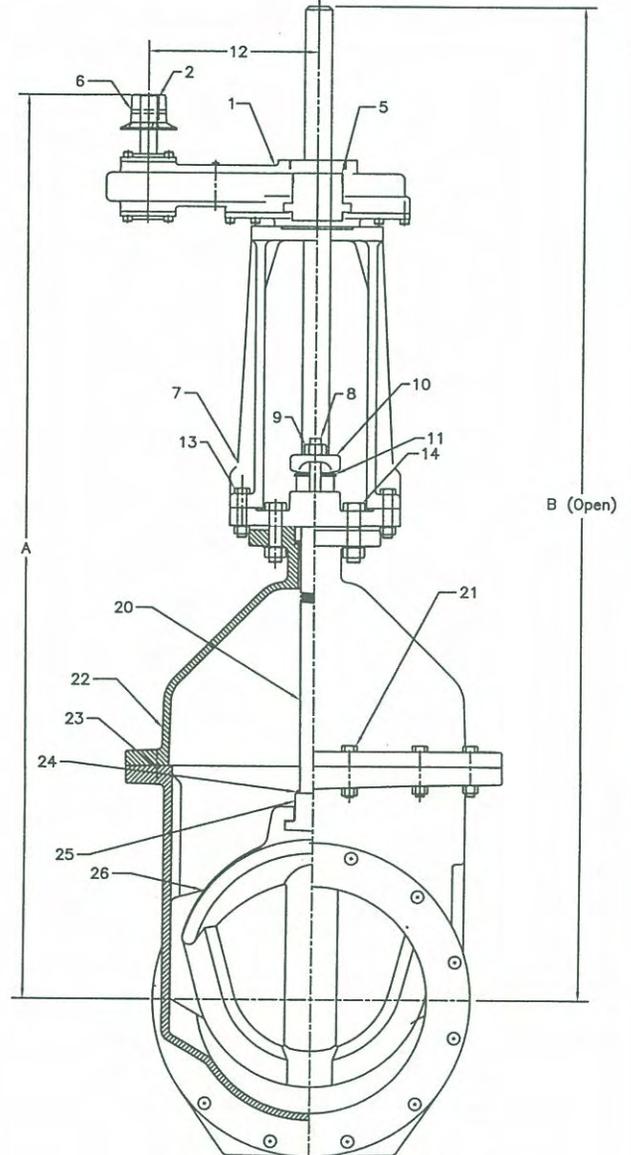


14"-24" R/W OS&Y WITH SPUR GEAR ACTUATOR

**CLOW VALVE COMPANY**

MODEL 2638

F-6136



Item	Description	
1	Exeeco IS7	Bronze ASTM B584 C83600
2	Square Key	Commercial Steel
3	Hex Capscrew	Zinc Pltd Steel ASTM A307 Gr. B
4	Op Nut	Gray Iron ASTM A126 Class B
5	Output Sleeve	Aluminum Bronze ASTM B505 C95800
6	Roll Pin	Stainless Steel
7	Yoke	Gray Iron ASTM A126 Class B
8	Stud	Bronze ASTM B584 C83600
9	Hex Nut	Bronze ASTM B584 C83600
10	Follower	Gray Iron ASTM A126 Class B
11	Gland	Bronze ASTM B584 C83600
12	Packing	Square braided Fibre
13	Hex Capscrew & Hex Nut	Zinc Pltd Steel ASTM A307 Gr. B
14	Hex Capscrew & Hex Nut	Zinc Pltd Steel ASTM A307 Gr. B
15	Adapter	Gray Iron ASTM A126 Class B
16	Bushing	Bronze ASTM B584 C83600
17	Follower Gasket	Fibre
18	Cover Spacer	Bronze ASTM B584 C83600
19	Cover Bushing	Bronze ASTM B584 C83600
20	Stem & Bottom Nut	Bronze ASTM B16 Alloy 306
21	Hex Capscrew & Hex Nut	Zinc Pltd Steel ASTM A307 Gr. B
22	Cover	Ductile Iron ASTM A536 Grade 65-45-12
23	Cover O-Ring	Buna-N
24	Stem O-Ring	Buna-N
25	Stem Nut	Bronze ASTM B584 C83600
26	Wedge	Gray Iron ASTM A126 Class B & SBR
27	Body -flanged type	Ductile Iron ASTM A536 Grade 65-45-12
28	Wedge Protector Cap	Delrin

	14"	16"	18"	20"	24"
A	64-1/2	64-1/2	74-5/8	74-5/8	83-1/2
B	76	76	90-7/8	90-7/8	103-5/8

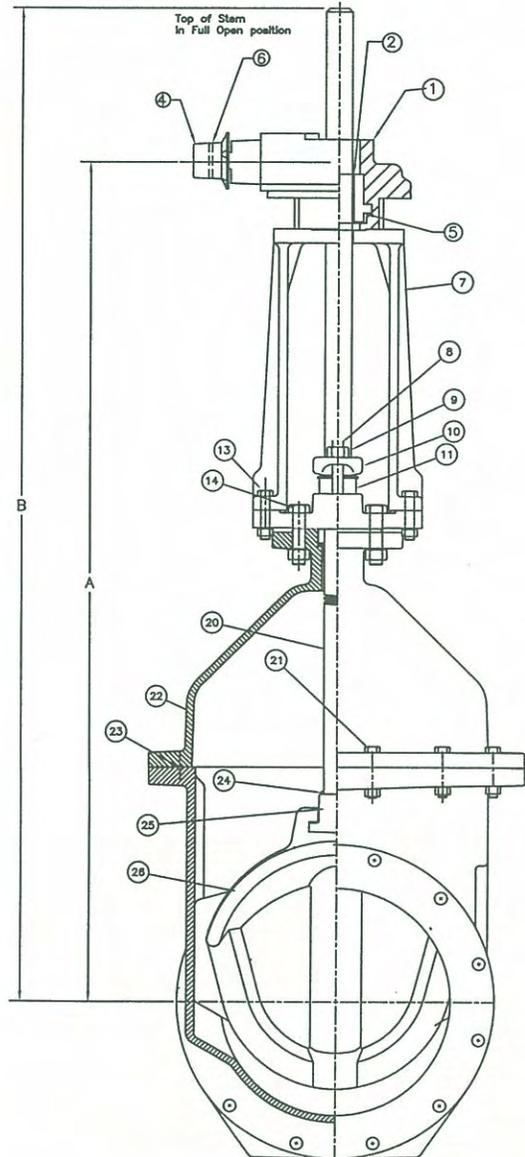
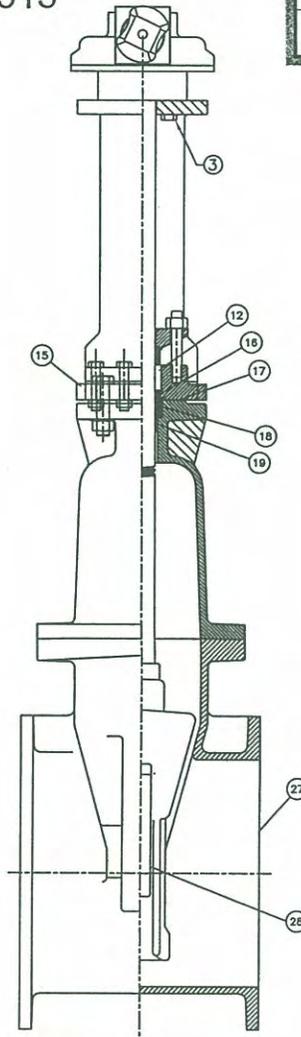
Complies with applicable requirements of AWWA C515

14"-24" R/W OS&Y WITH BEVEL GEAR ACTUATOR

**CLOW VALVE COMPANY**

MODEL 2638

F-6136



Item	Description	
1	Exeeco IB7	Bronze ASTM B584 C83600
2	Square Key	Commercial Steel
3	Hex Capscrew	Zinc Pltd Steel ASTM A307 Gr. B
4	Op Nut	Gray Iron ASTM A126 Class B
5	Output Sleeve	Aluminum Bronze ASTM B505 C95800
6	Roll Pin	Stainless Steel
7	Yoke	Gray Iron ASTM A126 Class B
8	Stud	Bronze ASTM B584 C83600
9	Hex Nut	Bronze ASTM B584 C83600
10	Follower	Gray Iron ASTM A126 Class B
11	Gland	Bronze ASTM B584 C83600
12	Packing	Square braided Fibre
13	Hex Capscrew & Hex Nut	Zinc Pltd Steel ASTM A307 Gr. B
14	Hex Capscrew & Hex Nut	Zinc Pltd Steel ASTM A307 Gr. B
15	Adapter	Gray Iron ASTM A126 Class B
16	Bushing	Bronze ASTM B584 C83600
17	Follower Gasket	Fibre
18	Cover Spacer	Bronze ASTM B584 C83600
19	Cover Bushing	Bronze ASTM B584 C83600
20	Stem & Bottom Nut	Bronze ASTM B16 Alloy 306
21	Hex Capscrew & Hex Nut	Zinc Pltd Steel ASTM A307 Gr. B
22	Cover	Ductile Iron ASTM A536 Grade 65-45-12
23	Cover O-Ring	Buna-N
24	Stem O-Ring	Buna-N
25	Stem Nut	Bronze ASTM B584 C83600
26	Wedge	Gray Iron ASTM A126 Class B & SBR
27	Body -flanged type	Ductile Iron ASTM A536 Grade 65-45-12
28	Wedge Protector Cap	Delrin

	14"	16"	18"	20"	24"
A	59-7/8	59-7/8	70-1/8	70-1/8	78-7/8
B	76	76	90-7/8	90-7/8	103-5/8

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

**CLOW VALVE COMPANY**

MODEL 2638

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 429-73 specification.

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

4"-12" R/W VALVE AWWA SERVICE  
Performance Information

**CLOW VALVE COMPANY**

MODEL 2638

1. Valve complies with AWWA C515 specs where applicable.
2. Valve is rated at 250 psi working pressure.
3. Valve is bubble-tight at all pressures up to full rated pressure (250 psi).
4. Valve is capable of bubble-tight seal at twice the rate pressure (500 psi) for short periods of time.
5. 2" thru 12" valve sizes have been hydrostatically shell tested at 2.5 times the rated pressure (625 psi).
6. Valve has been subjected to torques 150 percent of the designated minimum required torques.
7. Valve has been cycle tested 5,000 times without loss of bubble-tight seal.
8. Rubber to iron bond on wedge is inspected for strength as per ASTM D 429-73 specification.

RECOMMENDED SPECIFICATIONS FOR  
C-515 RESILIENT WEDGE GATE VALVES

**CLOW VALVE COMPANY**

MODEL 2638

Valves shall conform to the latest revision of AWWA Standard C-515 covering Resilient Wedge Gate Valves for Water Supply Service.

The valves shall have a ductile iron body, bonnet, and oring plate. The wedge shall be totally encapsulated with rubber.

The sealing rubber shall be permanently bonded to the wedge per ASTM D429.

Valves shall be supplied with oring seals at all pressure retaining joints. No flat gaskets shall be allowed.

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

Stems for NRS assemblies shall be cast bronze with integral collars in full compliance with AWWA. OS&Y(rising stems) shall be of bronze. All stems shall operate with bronze stem nuts independent of wedge and of stem (in NRS valves). Stainless steel stems or stem nuts are not allowed. NRS stems shall have two orings located above thrust collar and one oring below. Stem orings shall be replacable with valve fully opened and subjected to full pressure. The NRS stems on 4"-12" shall also have two low torque thrust bearings located above and below the stem collar to reduce friction during operation.

Waterway shall be smooth, unobstructed and free of all pockets, cavities and depressions in the seat area. Valves 4" and larger shall accept a full size tapping cutter.

The body, bonnet, and oring plate shall be fusion-bond epoxy coated, both interior and exterior on body and bonnet. Epoxy shall be applied in accordance with AWWA C-550 and be NSF 61 approved.

Each valve shall have maker's name, pressure rating, and year in which it was manufactured cast in the body. Prior to shipment from the factory, each valve shall be tested by hydrostatic pressure equal to the requirements of AWWA C-515 (and ULFM where applicable).

Valves shall have all component parts cast and assembled in the USA and shall be manufactured by the Clow Valve Company.



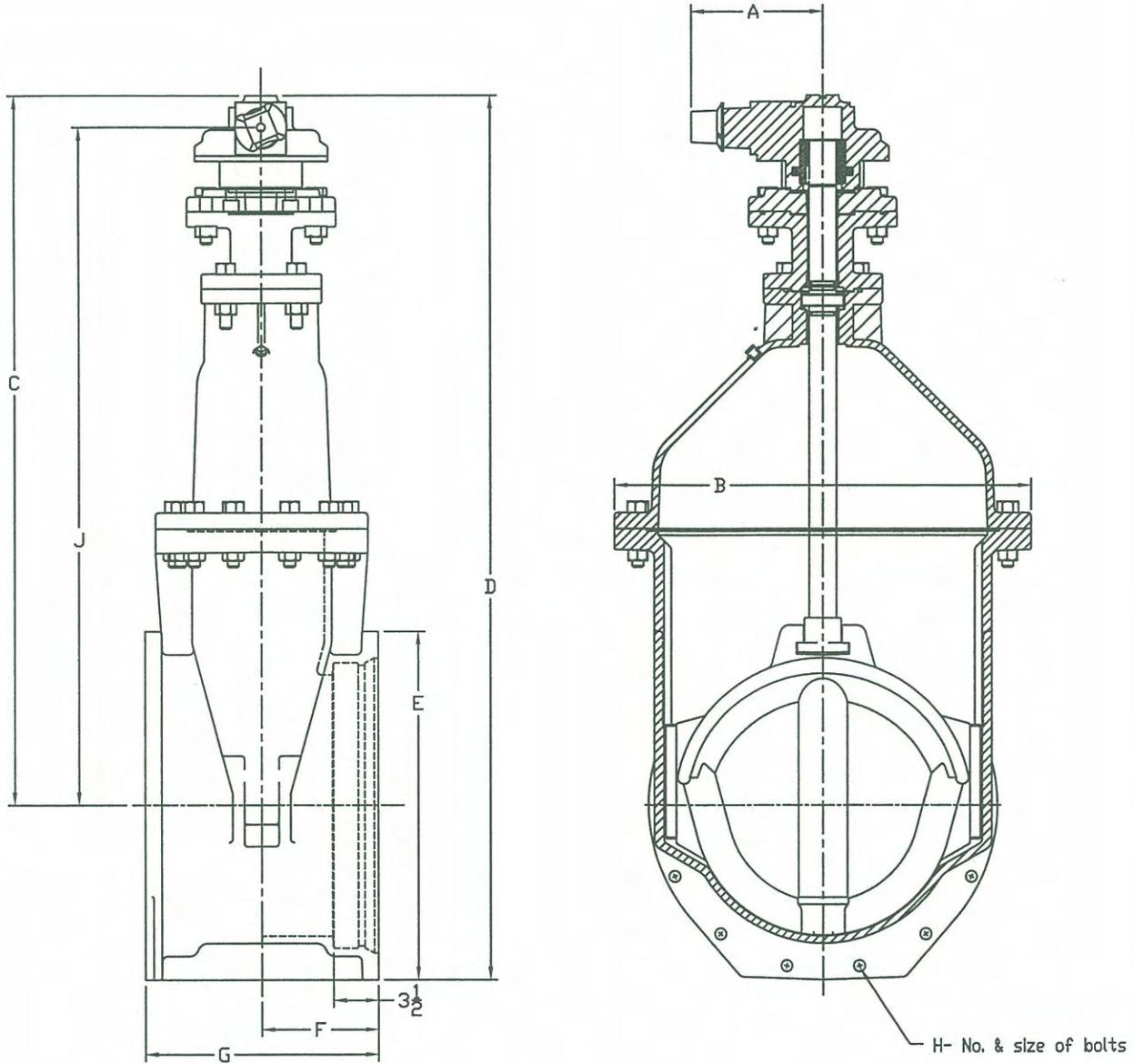
Complies with  
AWWA C515

14"-24" R/W VALVE MJ END  
BEVEL GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6100



VALVE SIZE	A	B	C	D	E	F	G	H	J
14	9 1/8	26 11/16	48 5/8	59	20 1/4	8 1/2	17	10-3/4	46 5/8
16	9 1/8	26 11/16	47 5/8	59	22 1/2	8 1/2	17	12-3/4	45 5/8
18	10 1/8	32 1/4	55 3/4	68 1/4	24 3/4	9 5/32	18	12-3/4	53 3/4
20	10 1/8	32 1/4	54 3/4	68 1/4	27	9 5/32	18	14-3/4	52 3/4
24	10 1/8	36 1/2	59 7/8	75 1/8	31 1/2	9 1/2	19	16-3/4	57 3/8

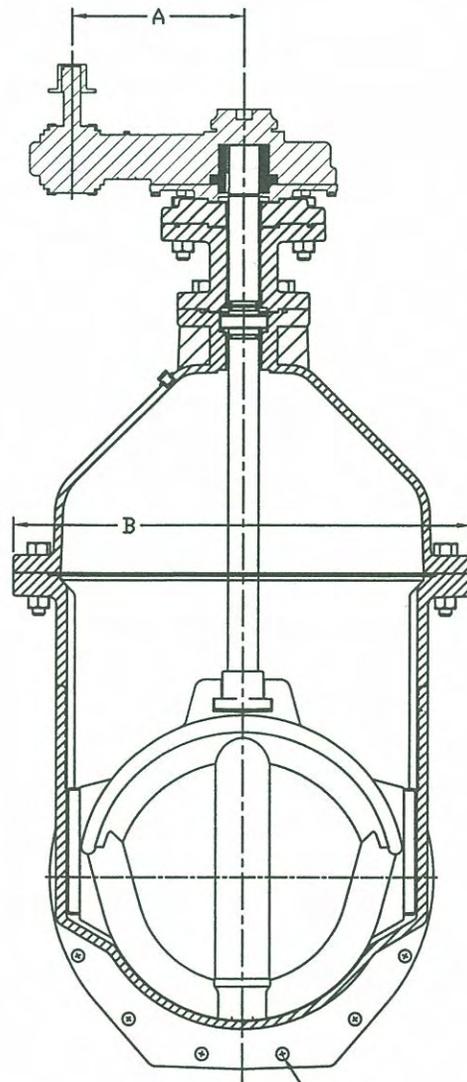
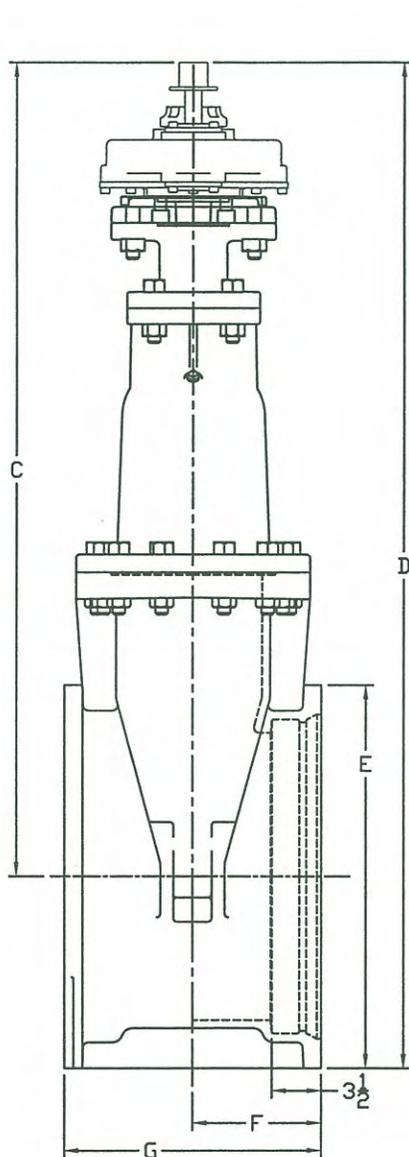
Complies with  
AWWA C515

14"-24" RW VALVE MJ END  
SPUR GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

F-6100



H- No. & size of bolts

VALVE SIZE	A	B	C	D	E	F	G	H
14	8	26 11/16	52 1/8	62 1/2	20 1/4	8 1/2	17	10-3/4
16	8	26 11/16	51 1/8	62 1/2	22 1/2	8 1/2	17	12-3/4
18	12	32 1/4	58	70 1/2	24 3/4	9 5/32	18	12-3/4
20	12	32 1/4	57	70 1/2	27	9 5/32	18	14-3/4
24	12	36 1/2	62 1/8	77 3/8	31 1/2	9 1/2	19	16-3/4

14"-24" R/W VALVE AWWA SERVICE  
Performance Information

**CLOW VALVE COMPANY**

MODEL 2638

1. Valve complies with AWWA C515 specs where applicable.
2. Valve is rated at 200 psi working pressure.
3. Valve is bubble-tight at all pressures up to full rated pressure (200 psi).
4. Valve is capable of bubble-tight seal at twice the rate pressure (400 psi) for short periods of time.
5. 14" thru 24" valve sizes have been hydrostatically shell tested at 2.5 times the rated pressure (500 psi).
6. Valve has been subjected to torques 150 percent of the designated minimum required torques.
7. Valve has been cycle tested 5,000 times without loss of bubble-tight seal.
8. Rubber to iron bond on wedge is inspected for strength as per ASTM D 429-73 specification.

**R/W RESILIENT WEDGE GATE VALVE**  
Product Analysis

**CLOW VALVE COMPANY**

**MODEL 2638**

<b>Features</b>	<b>Benefits</b>
Bubble Tight Closure at 250 psi (2"-12") 200 psi (14"-24") (AWWA SERVICE)	<ul style="list-style-type: none"><li>• No leakage—no loss of water</li></ul>
Smooth, Unobstructed Waterway	<ul style="list-style-type: none"><li>• High flow characteristics</li><li>• 100% smooth passage without turbulent flow</li><li>• No sediment build-up</li><li>• Will not impede travel of line cleaning tools</li></ul>
Only Three Internal Parts	<ul style="list-style-type: none"><li>• Virtually maintenance free</li></ul>
No Seat Rings	<ul style="list-style-type: none"><li>• Nothing to be damaged by scoring</li></ul>
Delrin* Anti-Friction Thrust Bearing	<ul style="list-style-type: none"><li>• Operating torque to close and open held to absolute minimum</li></ul>
Solid, Bronze Stem Nut and High Strength Bronze Stem	<ul style="list-style-type: none"><li>• No corrosion</li><li>• Trouble-free service</li></ul>
Stem Nut is Self Centering	<ul style="list-style-type: none"><li>• Eliminates possible stress on stem and wedge</li></ul>
Two "O" Ring Seals Above Stem Thrust Collar	<ul style="list-style-type: none"><li>• Can be replaced with valve in service</li></ul>
High Strength Iron Wedge Fully Encapsulated with Rubber Permanently Bonded to Metal. Wedge Design Incorporates Two Seating Surfaces.	<ul style="list-style-type: none"><li>• Trouble-free service with minimum maintenance</li><li>• No leaks—no wear</li></ul>

\*DuPont Trademark

**RESILIENT  
WEDGE VALVES**

**CLOW VALVE COMPANY**

**CLOW AWWA Resilient Wedge Gate Valves  
Meet or Exceed the Requirements of  
AWWA Standard C515**

Size Range	Water Working Pressure psi	Bubble Tight Test psi	Hydrostatic Shell Test psi
AWWA 4"-12", 30" & 36"	250	250	500
AWWA 14"-24"	200	200	400
ULFM 4"-12"	200	200	400
ULFM 14"-16"	200	200	400

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

**Available End Connections & Size Range**

**Figure No.**

FLG End (NRS)	4"-36"	F-6102
M.J.	4"-36"(except 2 1/2")	F-6100
FLG & M.J.	4"-36"	F-6106
Push-on for PVC (SDR)	4"-12"	F-6110
FLG End (OS & Y)	4"-24"	F-6136
M.J. for Tapping	4"-24"	F-6114
Tyton for D.I. & C900 PVC	4"-12" & 16"	F-6112
M.J. Cutting-in	4"-12"	F-6111
Push-on for D.I. X FLG	4"-12"	F-6113
Push-on for C.I. for Tapping	4"-8"	F-6115
Fastite	30"-36"	F-6112

**Accessories (Illustrated in the Gate Valve Section)**

Indicator Posts	2" Sq. Operating Nuts
Enclosed Gearing (14"-24")	Handwheels
"T" Handles	Extension Stems
Stem Guides	Floor Boxes
Electric Motor Actuators	Chain Wheels

Floorstands (non-rising stem)

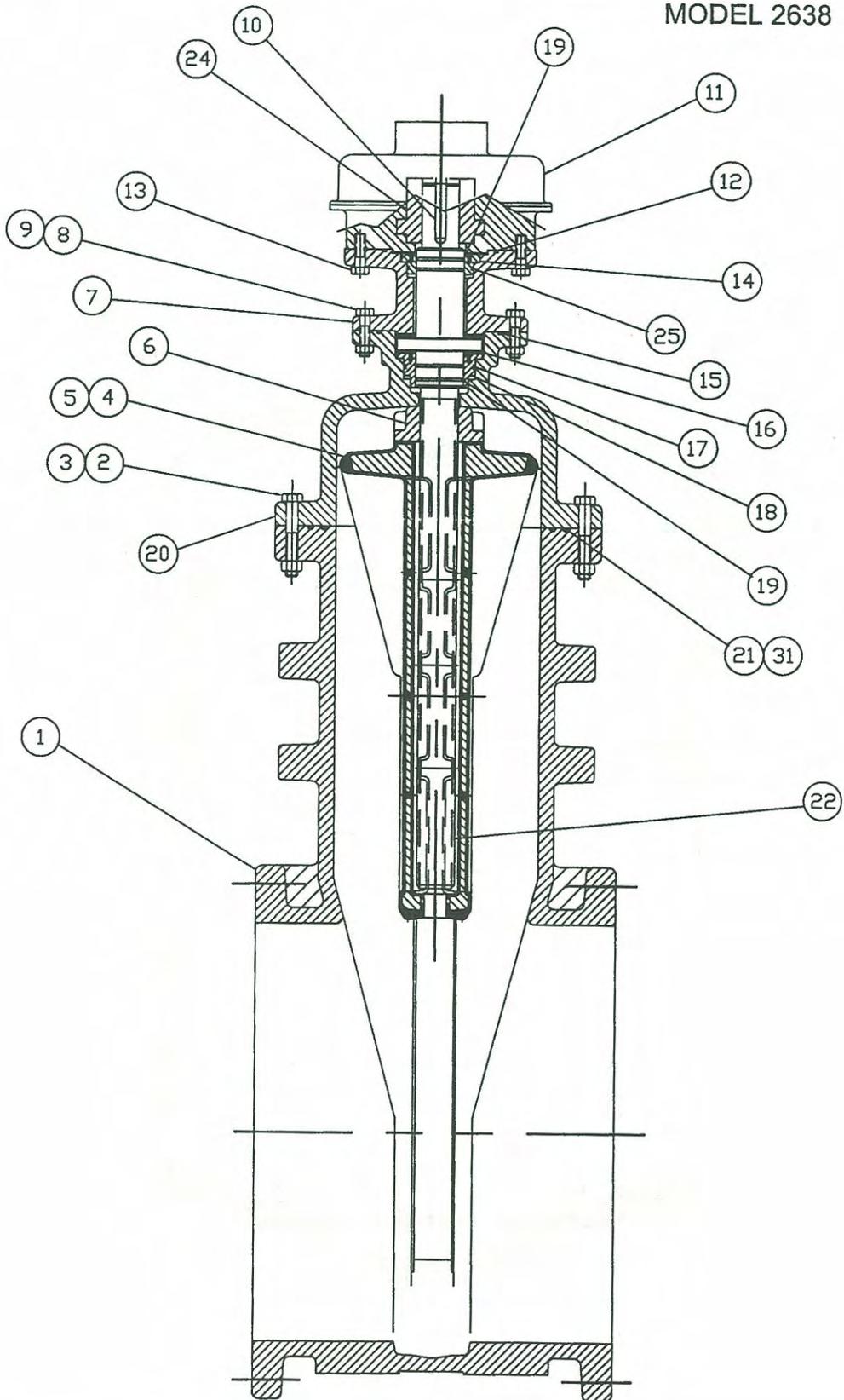
**MODEL 2638 AWWA C515 REDUCED WALL DUCTILE IRON**



2638-50  
A 9-23-02

30"-36" R/W VALVE  
BEVEL GEAR ASSEMBLY  
**CLOW VALVE COMPANY**

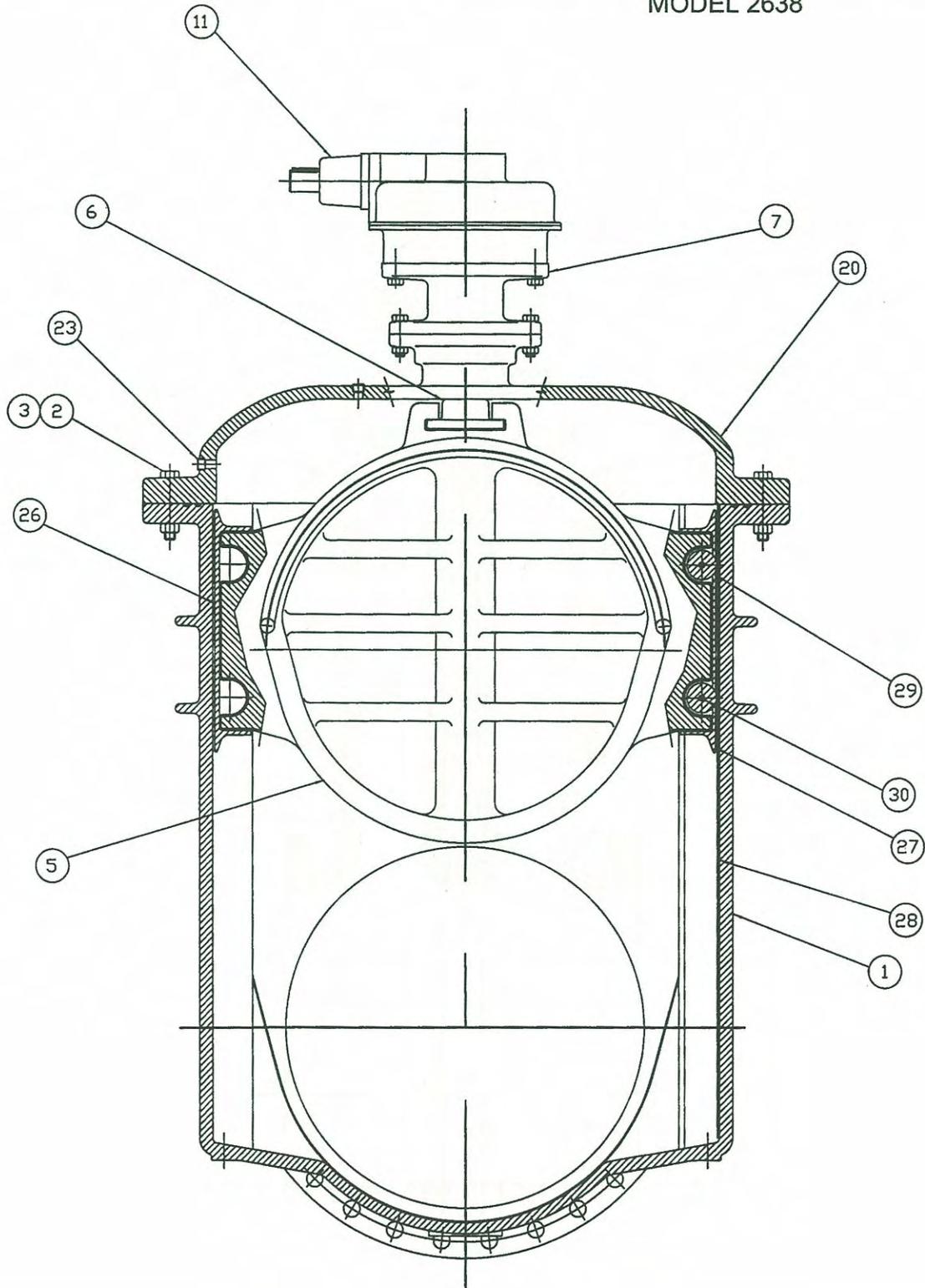
MODEL 2638



2638-51  
A 9/24/02

30"-36" R/W VALVE  
BEVEL GEAR ASSEMBLY  
**CLOW VALVE COMPANY**

MODEL 2638



2638-52  
A 9/24/02

30"-36" R/W VALVE  
BEVEL GEAR PARTS LIST  
**CLOW VALVE COMPANY**

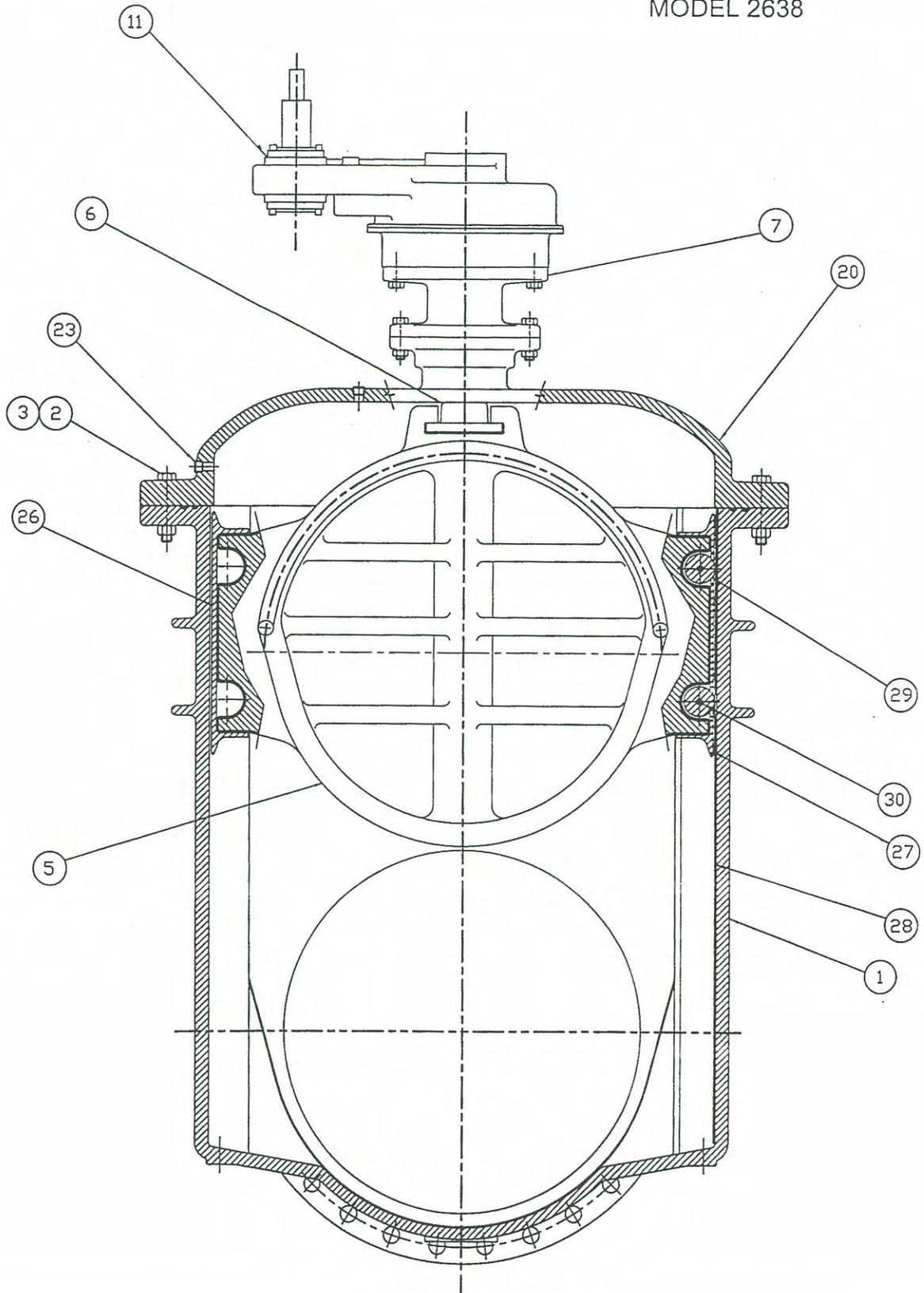
MODEL 2638

Item	Qty	Description	Material
1	1	Body - Mechanical Joint	ASTM A536 Ductile Iron
		Body - Flange	ASTM A536 Ductile Iron
		Body - MJ x Flange	ASTM A536 Ductile Iron
		Body - Fastite	ASTM A536 Ductile Iron
2	22	Bolt - 7/8-9NC hex hd x 5-1/2 lg	AISI 304 Stainless Steel
3	22	Nut - 7/8-9NC hex	AISI 304 Stainless Steel
4	1	Wedge Casting	ASTM A536 Ductile Iron
5	1	Molded Wedge	SBR
			EPDM
6	1	Stem Nut	ASTM B584 alloy 836 Brass
7	1	Extension - actuator	ASTM A536 Ductile Iron
8	8	Bolt - 3/4-10NC x 3' lg hex hd	AISI 304 Stainless Steel
9	8	3/4-10NC hex nut	AISI 304 Stainless Steel
10	1	Key - 5/8 square x 4 lg	5/8 sq steel keystack
11	1	Actuator - bevel gear	
12	1	O-ring #369	Buna N rubber
13	8	Bolt - 3/4-10NC x 2-1/2 lg hex hd	AISI 304 Stainless Steel
14	1	Bushing - stem guide	ASTM B584 alloy 836 Brass
15	1	O-ring #371	Buna N rubber
16	2	Thrust Bearing	Nylatron
17	1	O-ring #352	Buna N rubber
18	1	Cover Bushing	ASTM B584 alloy 836 Brass
19	4	O-ring #236	Buna N rubber
20	1	Cover	ASTM A536 Ductile Iron
21	1	O-ring - cover outer	Buna N rubber
22	1	Stem	ASTM B584 alloy 867 Brass
23	2	Pipe Plug - 3/4 NPT w/ square hd	AISI 304 Stainless Steel
24	1	Actuator Drive Bushing	Bronze
25	1	O-ring #348	Buna-N rubber
26	1	Wedge Protector	Urethane
27	1	Scraper	ASTM B148 C954 Al Bronze
28	1	Track	AISI 316 Stainless Steel
29	2	Roller	ASTM B148 C954 Al Bronze
30	2	Pin - roller	AISI 316 Stainless Steel
31	1	O-ring - cover inner	Buna N rubber

2638-58  
A 3/4/2004

30"-36" R/W VALVE  
SPUR GEAR ASSEMBLY  
**CLOW VALVE COMPANY**

MODEL 2638



2638-59  
A 3/04/04

30"-36" R/W VALVE  
SPUR GEAR PARTS LIST  
**CLOW VALVE COMPANY**

MODEL 2638

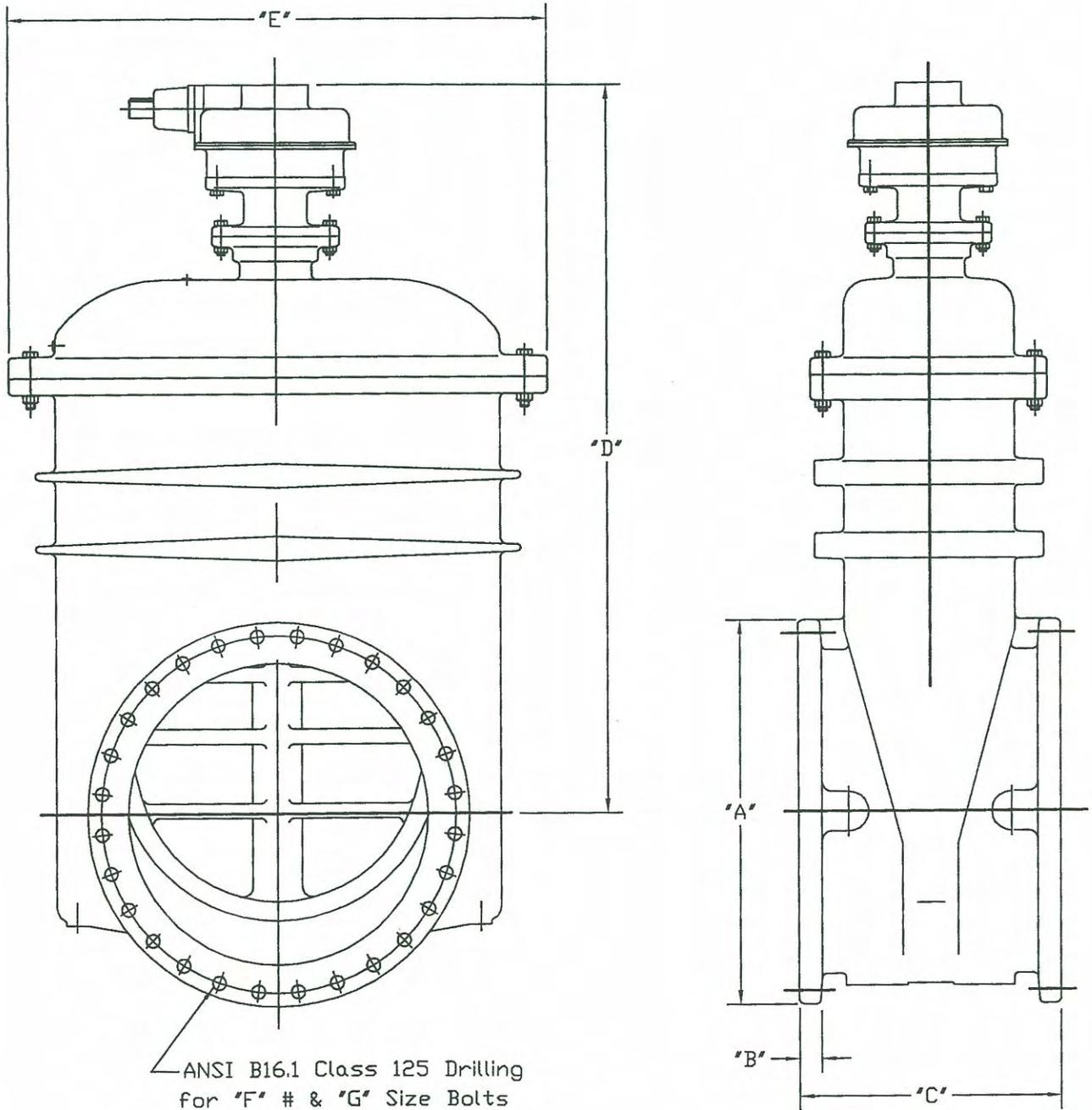
Item	Qty	Description	Material
1	1	Body - Mechanical Joint	ASTM A536 Ductile Iron
		Body - Flange	ASTM A536 Ductile Iron
		Body - MJ x Flange	ASTM A536 Ductile Iron
		Body - Fastite	ASTM A536 Ductile Iron
2	16	Bolt - 7/8-9NC hex hd x 5-1/2 lg	AISI 304 Stainless Steel
3	22	Nut - 7/8-9NC hex	AISI 304 Stainless Steel
4	1	Wedge Casting	ASTM A536 Ductile Iron
5	1	Molded Wedge	SBR EPDM
6	1	Stem Nut	ASTM B584 alloy 836 Brass
7	1	Extension - actuator	ASTM A536 Ductile Iron
8	8	Bolt - 3/4-10NC x 3' lg hex hd	AISI 304 Stainless Steel
9	8	3/4-10NC hex nut	AISI 304 Stainless Steel
10	1	Key - 5/8 square x 4 lg	5/8 sq steel keystick
11	1	Actuator - spur gear	
12	1	O-ring #369	Buna N rubber
13	8	Bolt - 3/4-10NC x 2-1/2 lg hex hd	AISI 304 Stainless Steel
14	1	Bushing - stem guide	ASTM B584 alloy 836 Brass
15	1	O-ring #371	Buna N rubber
16	2	Thrust Bearing	Nylatron
17	1	O-ring #352	Buna N rubber
18	1	Cover Bushing	ASTM B584 alloy 836 Brass
19	4	O-ring #236	Buna N rubber
20	1	Cover	ASTM A536 Ductile Iron
21	1	O-ring - cover outer	Buna N rubber
22	1	Stem	ASTM B584 alloy 867 Brass
23	2	Pipe Plug - 3/4 NPT w/ square hd	AISI 304 Stainless Steel
24	1	Actuator Drive Bushing	Bronze
25	1	O-ring #348	Buna-N rubber
26	1	Wedge Protector	Urethane
27	1	Scraper	ASTM B148 C954 Al Bronze
28	1	Track	AISI 316 Stainless Steel
29	2	Roller	ASTM B148 C954 Al Bronze
30	2	Pin - roller	AISI 316 Stainless Steel
31	1	O-ring - cover Inner	Buna N rubber

2638-53  
A 1/14/02

30"-36" R/W VALVE FLANGED ENDS  
BEVEL GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638



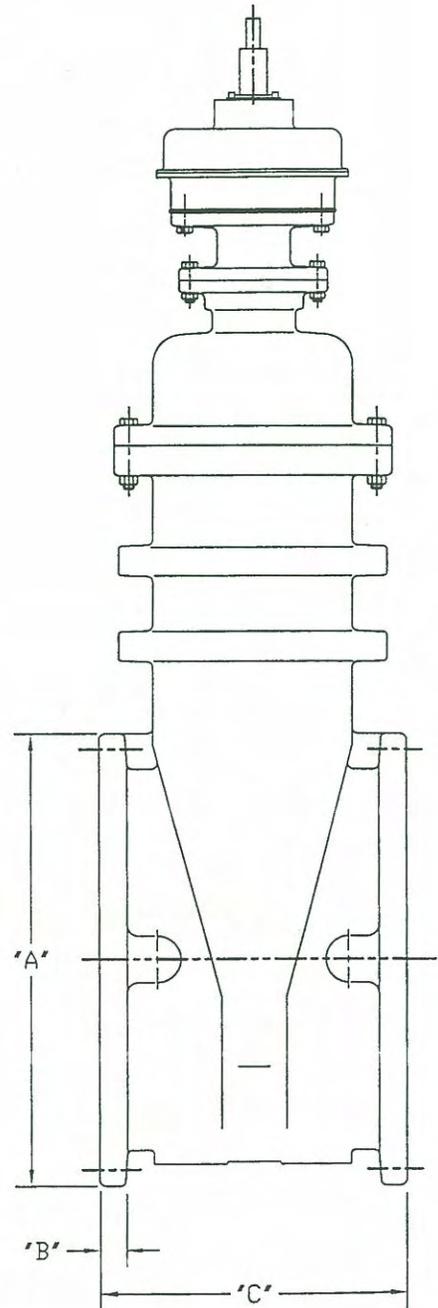
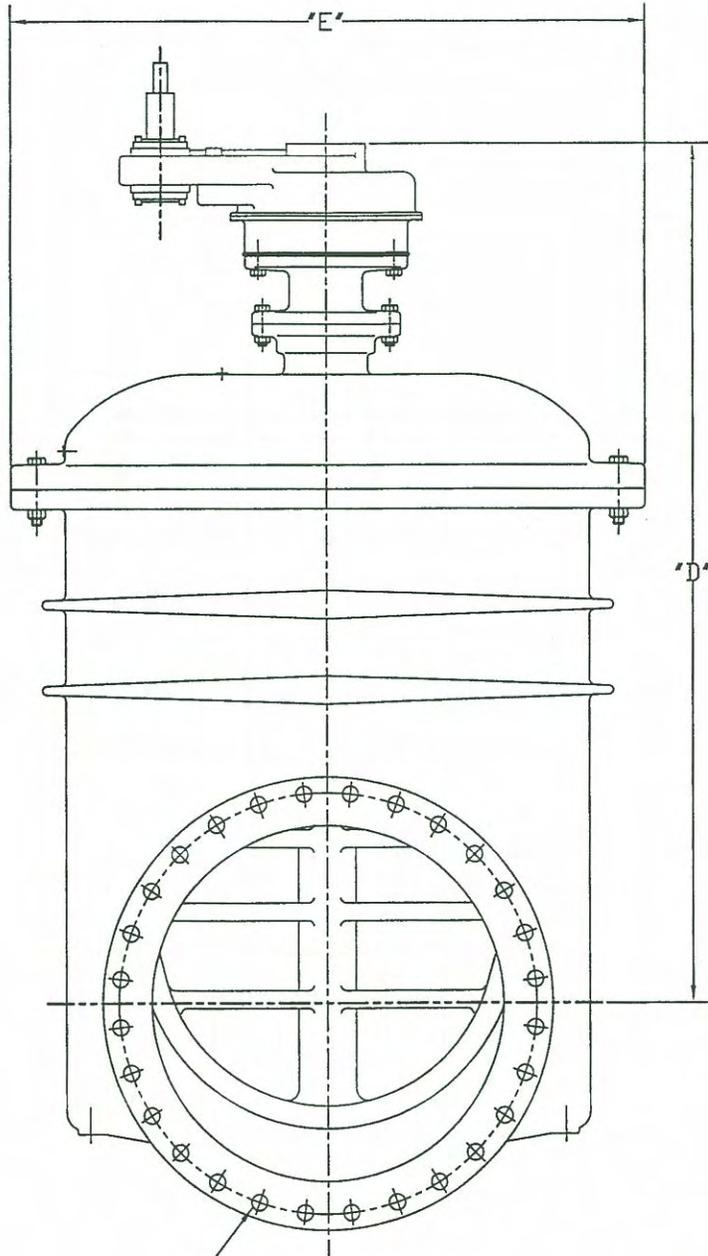
Valve Size	"A"	"B"	"C"	"D"	"E"	"F"	"G"
30"	38-3/4	2.12	26-1/2	73-3/4	54-3/4	28	1-1/4
36"	46	2.38	30-3/4	83-7/16	58-7/8	32	1-1/2

2638-60  
A 3/04/04

30"-36" R/W VALVE FLANGED ENDS  
SPUR GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638



ANSI B16.1 Class 125 Drilling  
for 'F' # & 'G' Size Bolts

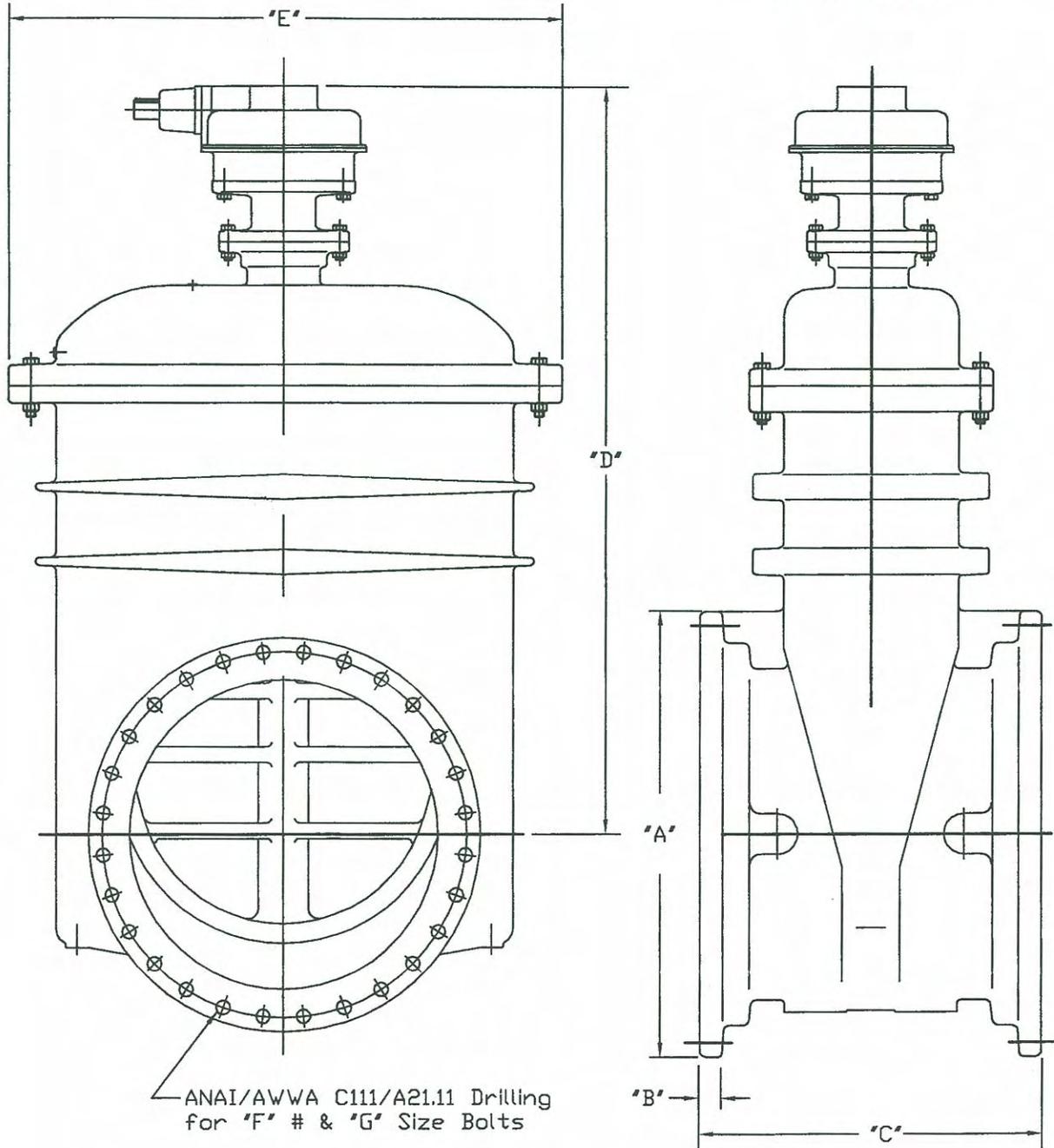
Valve Size	'A'	'B'	'C'	'D'	'E'	'F'	'G'
30"	38-3/4	2.12	26-1/2	74	54-3/4	28	1-1/4
36"	46	2.38	30-3/4	83-11/16	58-7/8	32	1-1/2

2638-54  
A 9/25/02

30"-36" RW VALVE MECH. JOINT ENDS  
BEVEL GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638



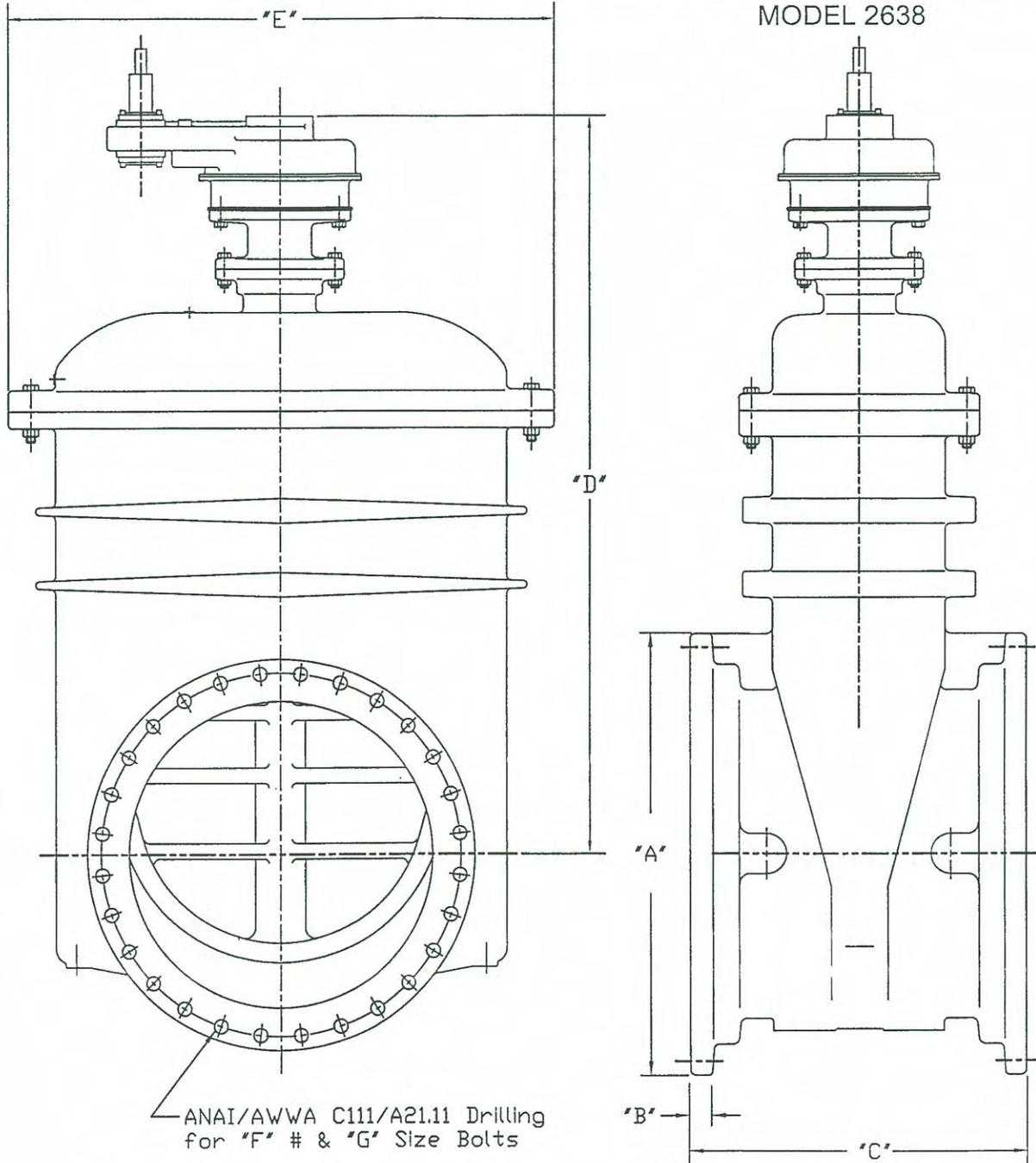
Valve Size	"A"	"B"	"C"	"D"	"E"	"F"	"G"
30"	39-1/2	1-11/16	35-1/2	73-3/4	54-3/4	20	1"
36"	46-1/2	2	38-3/4	83-7/16	58-7/8	24	1"
42"	54	2	40	100-3/4	75-1/8	28	1-3/8
48"	60-1/2	2-1/8		103-3/4	75-1/8	32	1-1/4

2638-61  
A 3/05/04

30"-36" R/W VALVE MECH. JOINT ENDS  
SPUR GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638



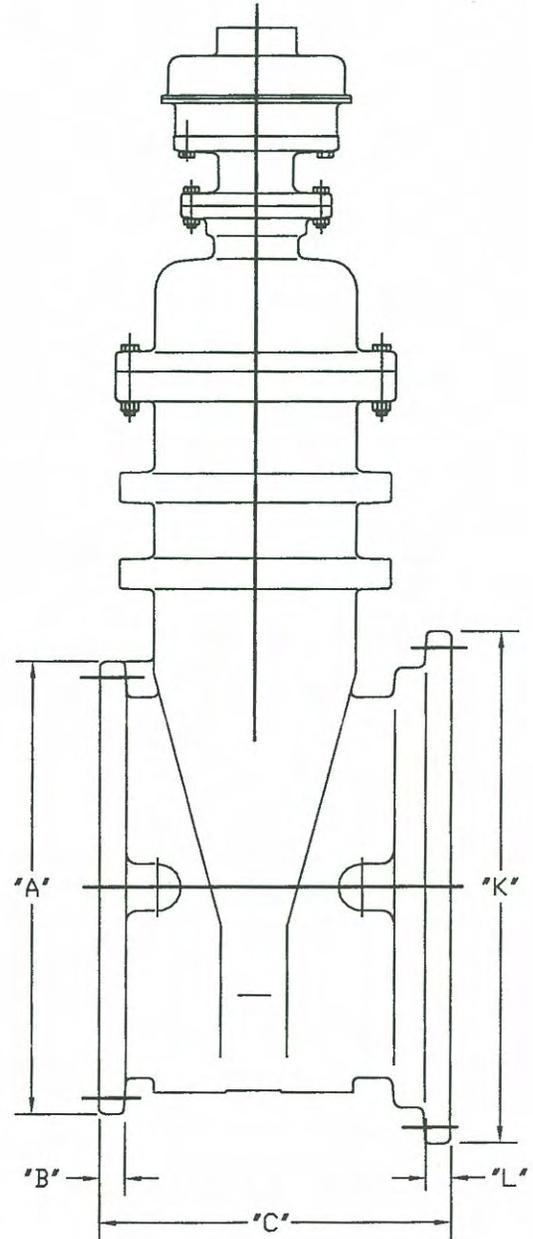
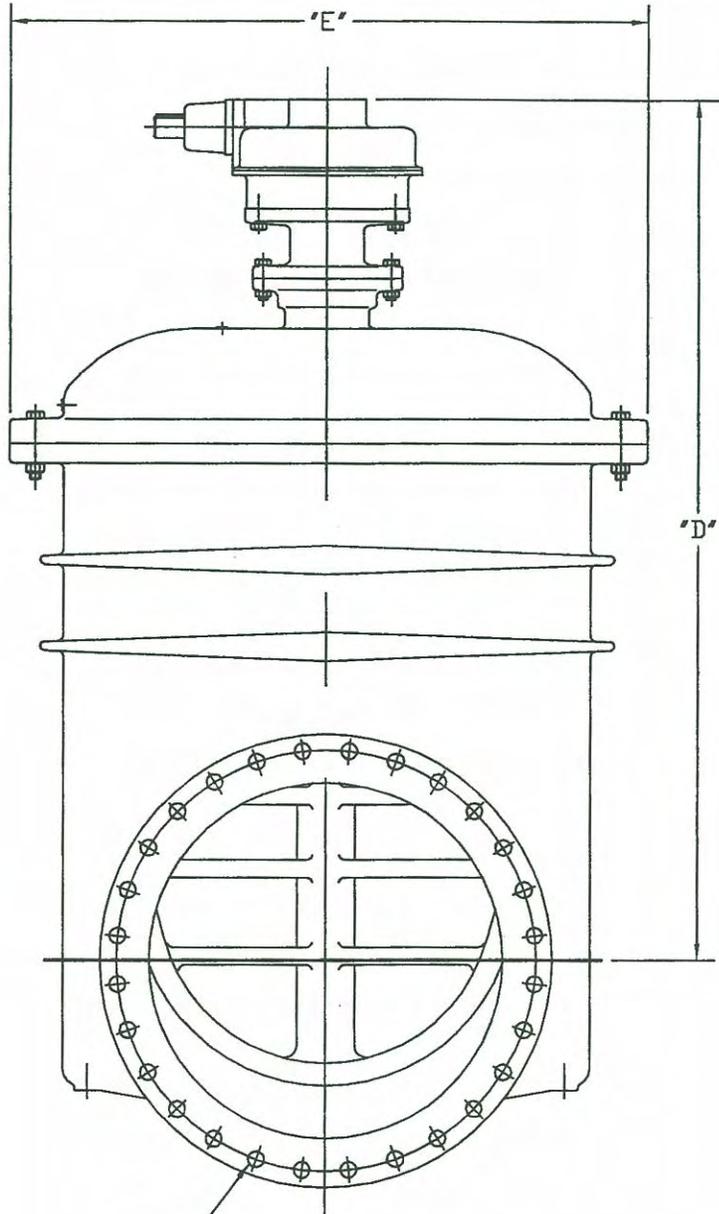
Valve Size	'A'	'B'	'C'	'D'	'E'	'F'	'G'
30"	39-1/2	1-11/16	35-1/2	74	54-3/4	20	1"
36"	46-1/2	2	38-3/4	83-11/16	58-7/8	24	1"

2638-55  
A 9/25/02

30"-36" R/W VALVE MJ x FLG ENDS  
BEVEL GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638



Flange End: ANSI B16.1 Class 125  
Drilling for "F" # & "G" Size Bolts  
MJ End: ANSI/AWWA C111/A21.11  
Drilling for "H" # & "J" Size Bolts

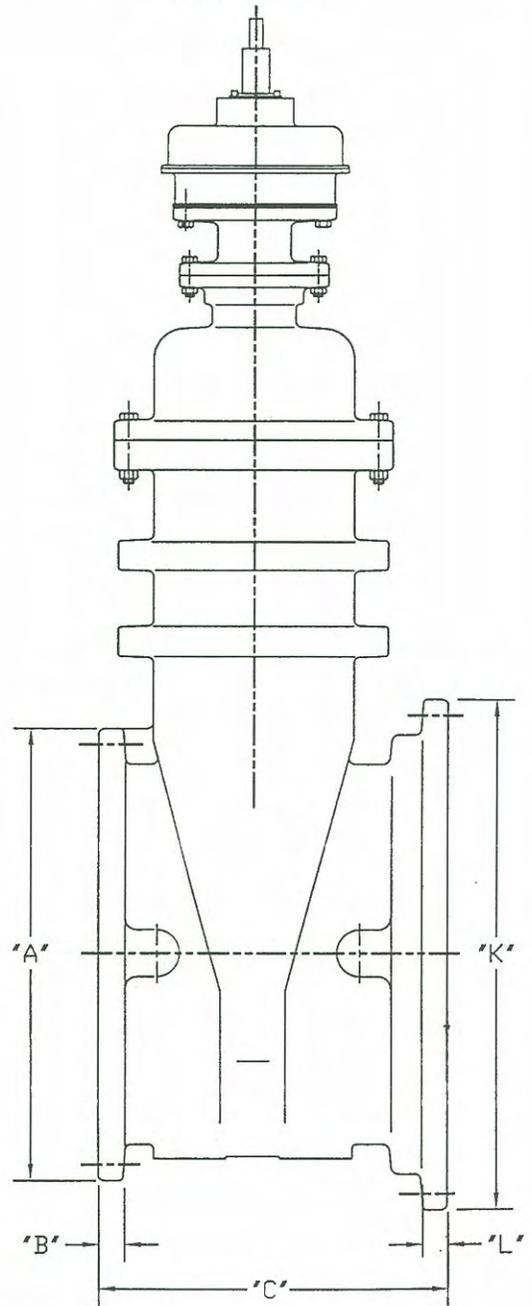
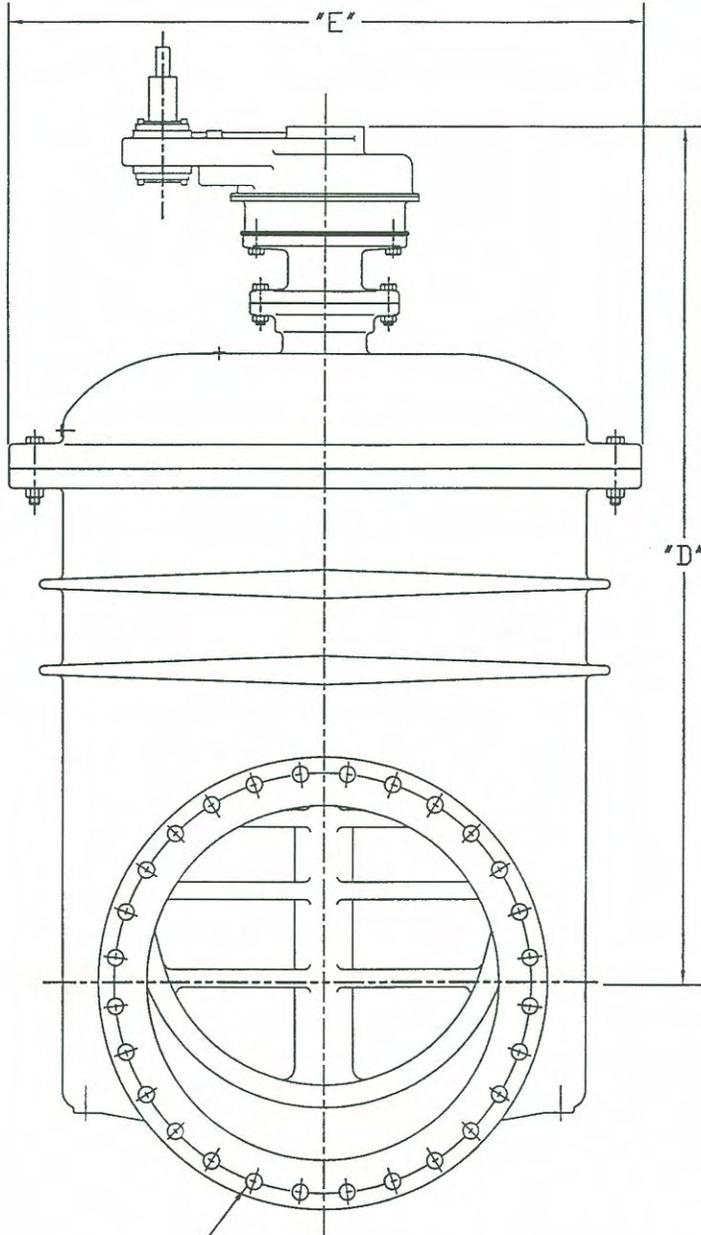
Valve Size	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"	"L"
30"	38-3/4	2.12	31	73-3/4	54-3/4	28	1-1/4	20	1"	39-1/2	2-1/8
36"	46	2.38	34-3/4	83-7/16	58-7/8	32	1-1/2	24	1"	46-1/2	2-3/8

2638-62  
A 3/05/04

30"-36" RW VALVE MJ x FLG ENDS  
SPUR GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638



Flange End: ANSI B16.1 Class 125  
Drilling for 'F' # & 'G' Size Bolts  
MJ End: ANSI/AWWA C111/A21.11  
Drilling for 'H' # & 'J' Size Bolts

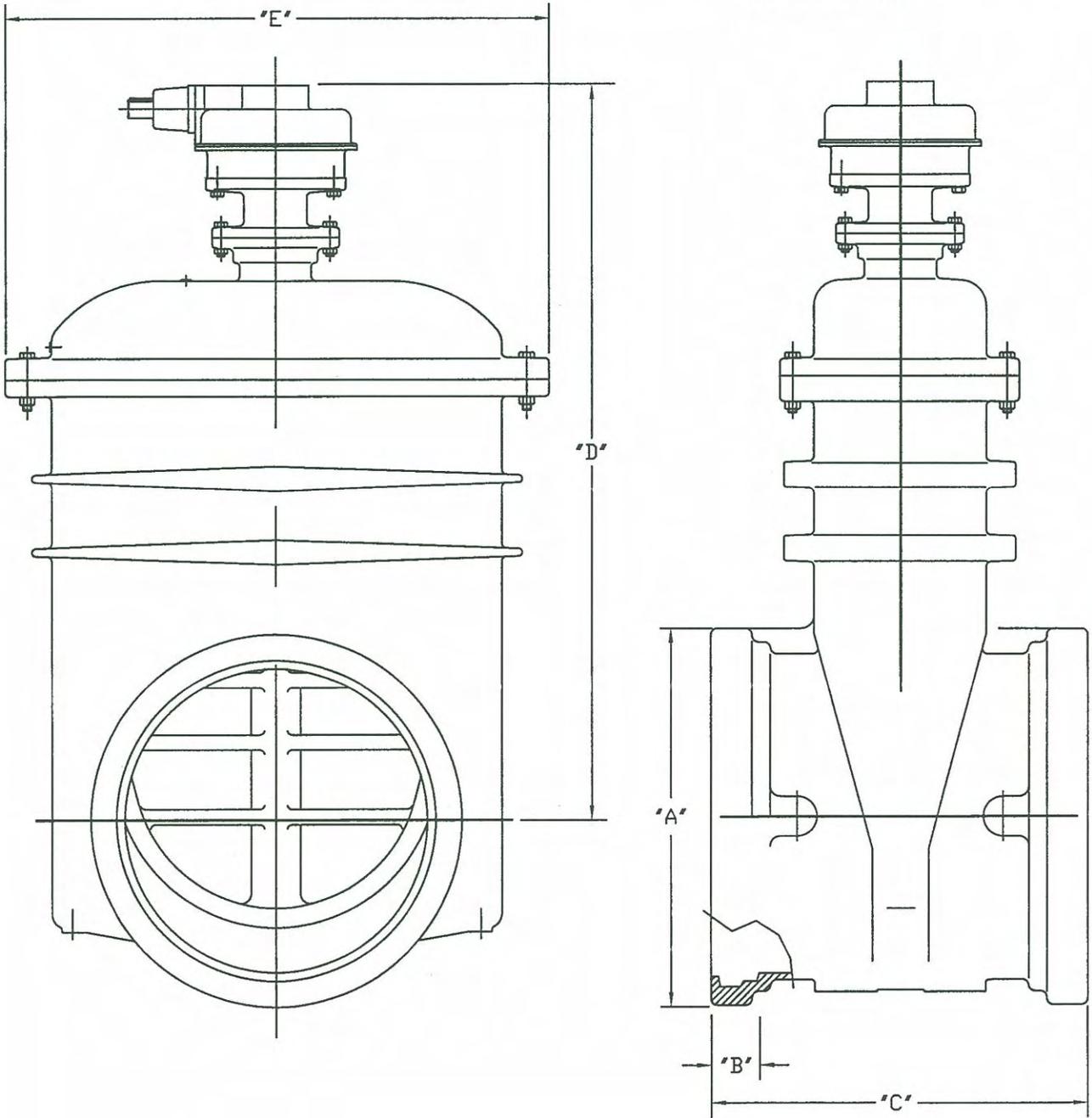
Valve Size	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'L'
30"	38-3/4	2.12	31	74	54-3/4	28	1-1/4	20	1'	39-1/2	2-1/8
36"	46	2.38	34-3/4	83-11/16	58-7/8	32	1-1/2	24	1'	46-1/2	2-3/8

2638-56  
A 9/25/02

30"-36" R/W VALVE FASTITE ENDS  
BEVEL GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638



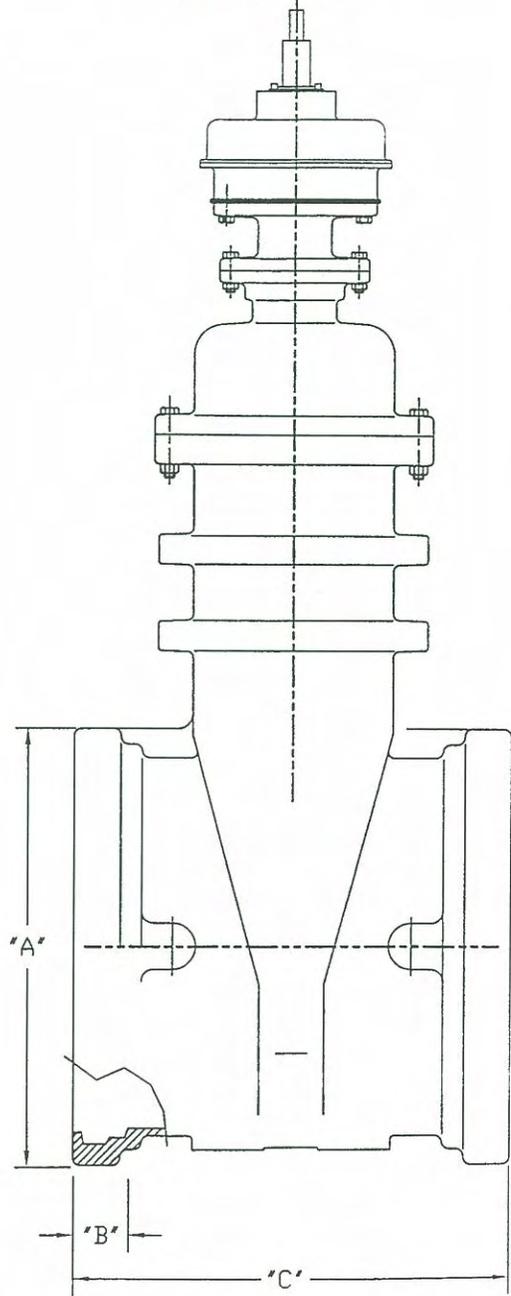
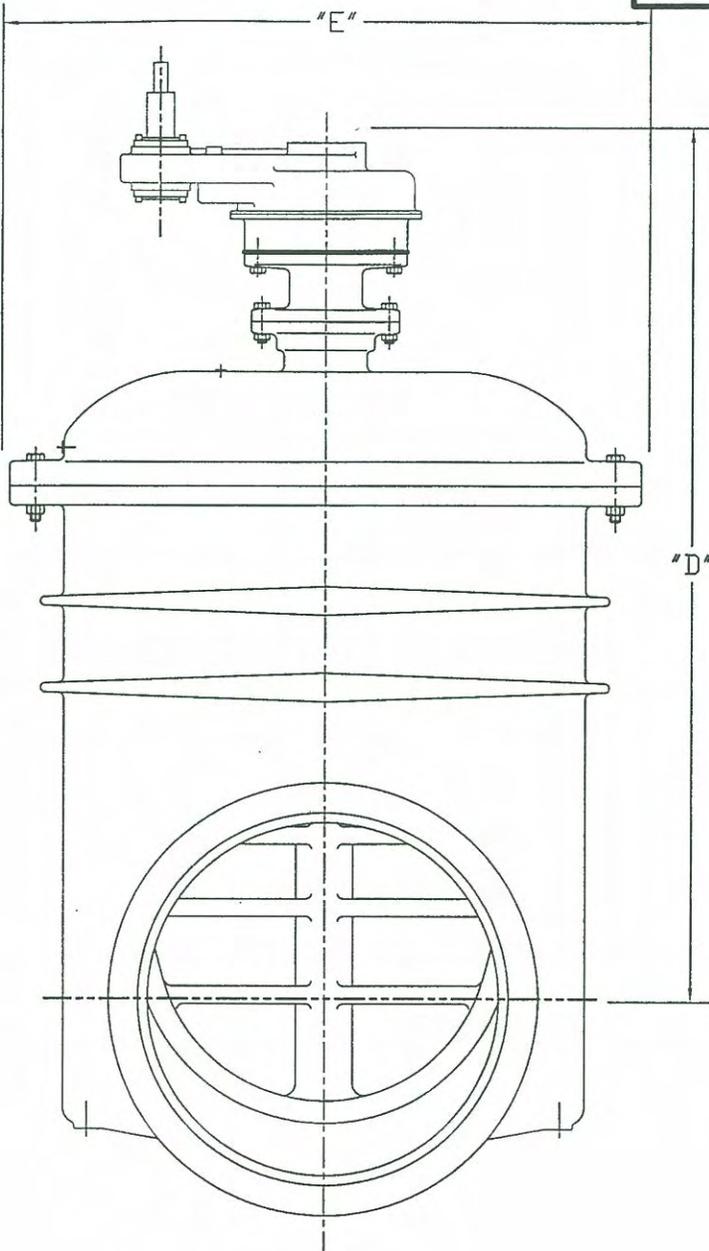
Valve Size	"A"	"B"	"C"	"D"	"E"
30"	37	6-1/4	36	73-3/4	54-3/4
36"	43-3/8	6-1/4	39	83-7/16	58-7/8
42"					
48"					

2638-63  
A 3/05/04

30"-36" R/W VALVE FASTITE ENDS  
SPUR GEAR GENERAL DIMENSIONS

**CLOW VALVE COMPANY**

MODEL 2638

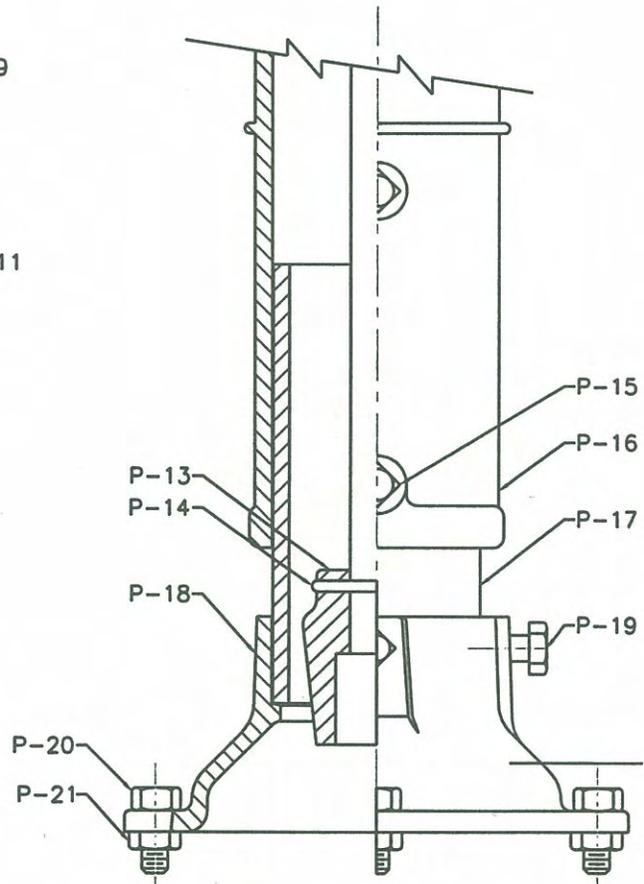
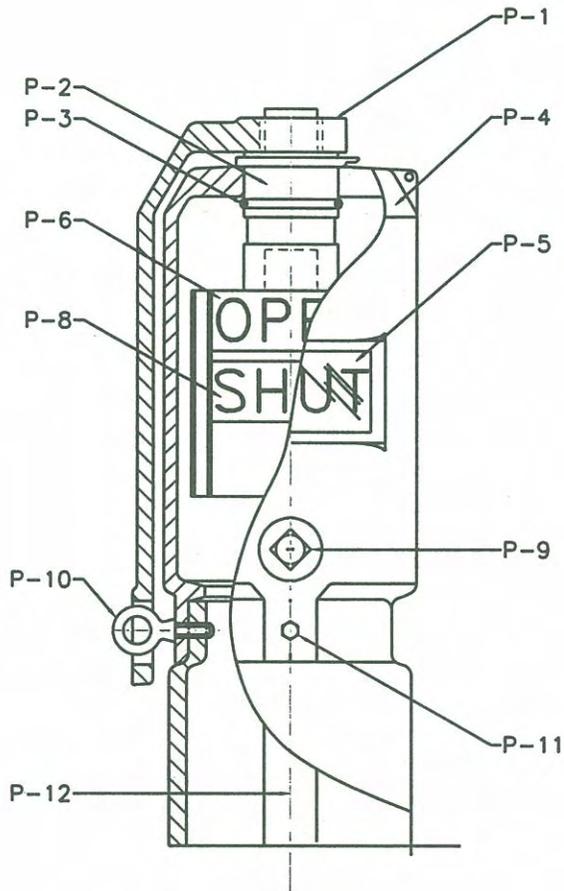


Valve Size	"A"	"B"	"C"	"D"	"E"
30"	37	6-1/4	36	74	54-3/4
36"	43-3/8	6-1/4	39	83-11/16	58-7/8



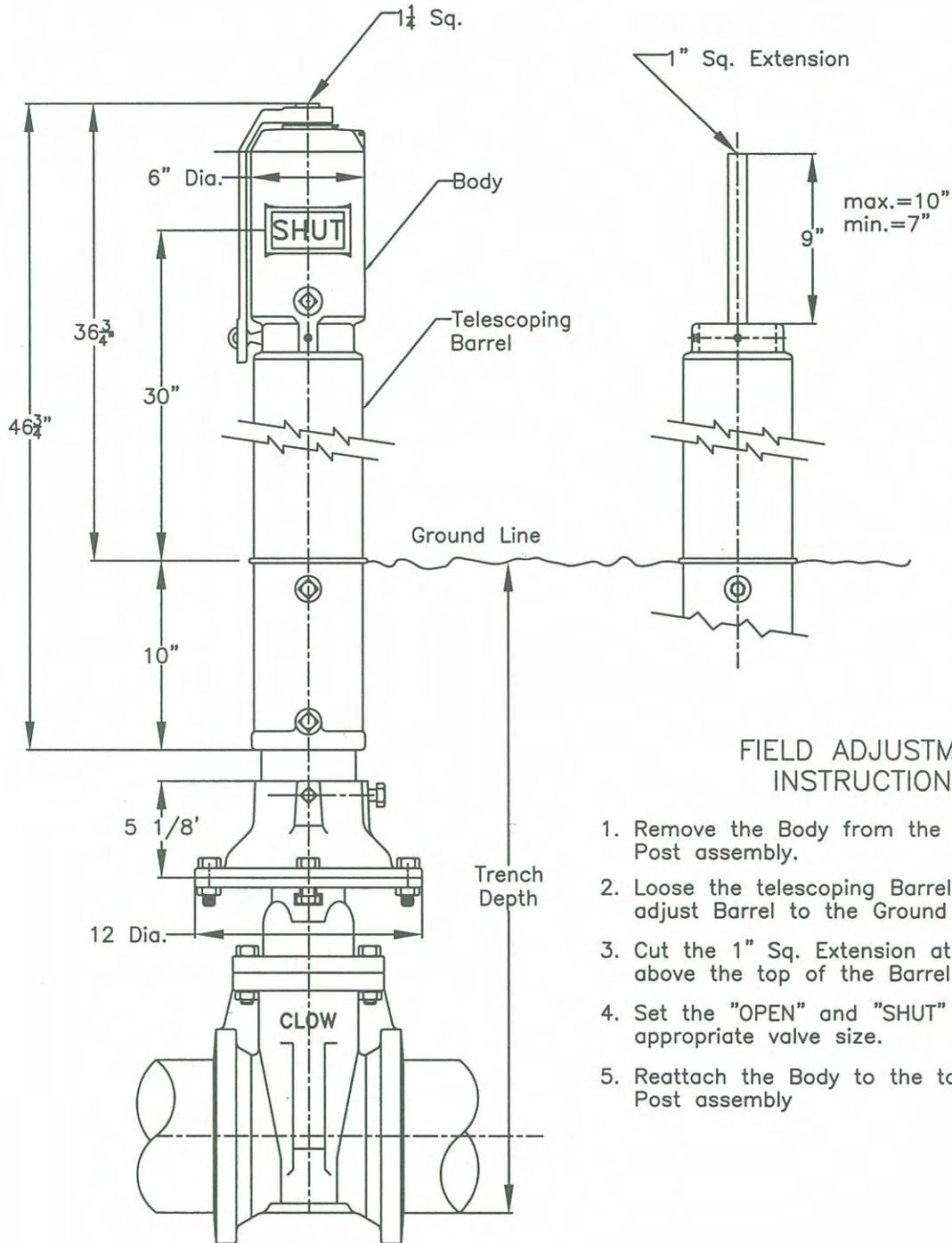
INDICATOR POST STYLE 2945 A  
TELESCOPING BARREL ASSEMBLY  
UL AND FM APPROVED

**CLOW VALVE COMPANY**



INDICATOR POST STYLE 2945 A  
TELESCOPING BARREL UL/FM  
DIMENSIONS AND INSTRUCTIONS

**CLOW VALVE COMPANY**

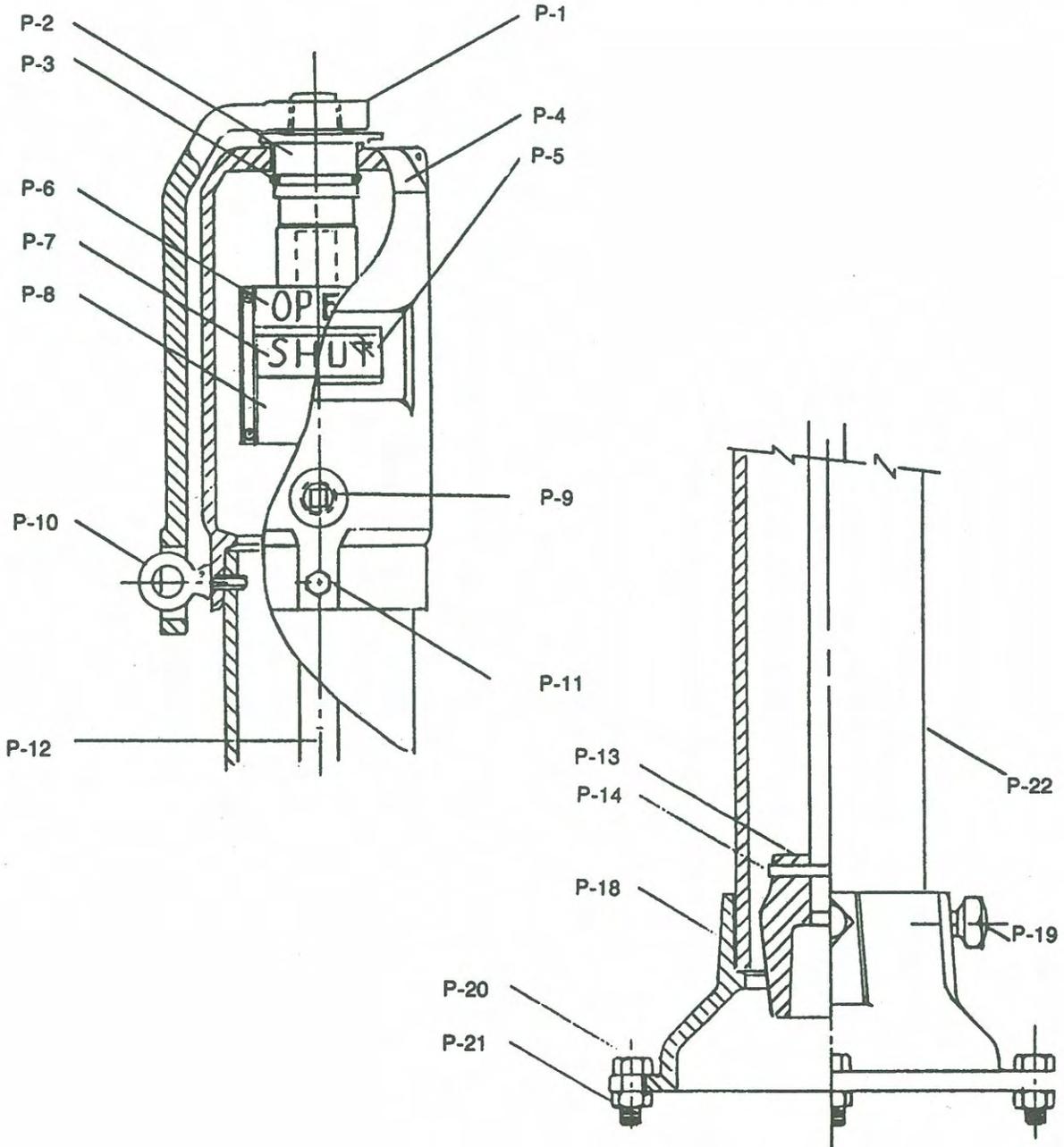


FIELD ADJUSTMENT  
INSTRUCTIONS

1. Remove the Body from the top of the Indicator Post assembly.
2. Loose the telescoping Barrel set screws and adjust Barrel to the Ground Line.
3. Cut the 1" Sq. Extension at a distance of 9" above the top of the Barrel end.
4. Set the "OPEN" and "SHUT" targets for the appropriate valve size.
5. Reattach the Body to the top of the Indicator Post assembly

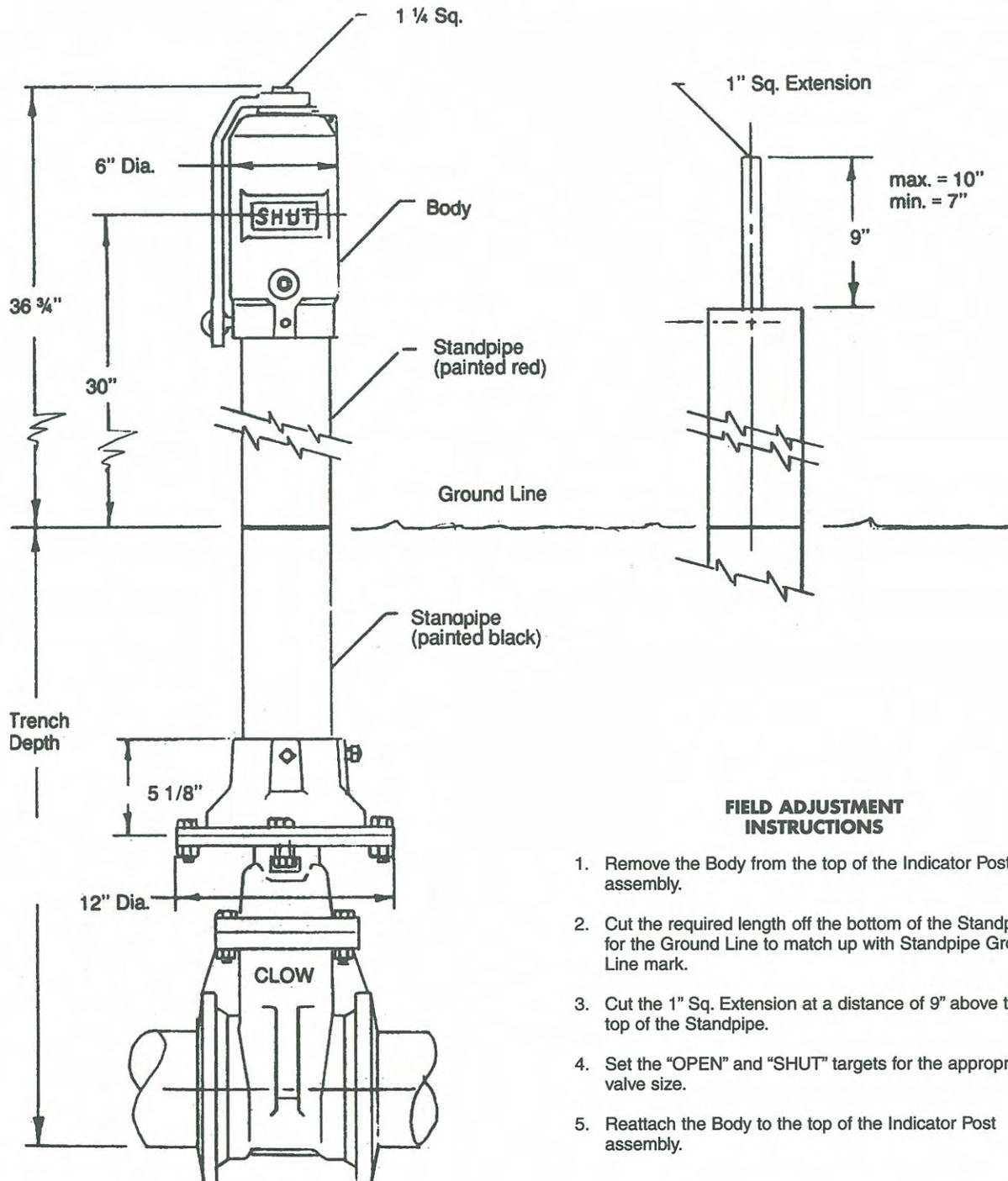
INDICATOR POST STYLE 2945  
FIXED LENGTH ASSEMBLY  
UL AND FM APPROVED

**CLOW VALVE COMPANY**



INDICATOR POST STYLE 2945  
FIXED LENGTH ASSEMBLY  
DIMENSIONS AND INSTRUCTIONS

**CLOW VALVE COMPANY**



INDICATOR POST  
 STYLE 2945 & 2945 A UL/FM  
 PARTS LIST

**CLOW VALVE COMPANY**

PART NO	QTY	DESCRIPTION	MATERIAL
P-1	1	LOCKING WRENCH	CAST IRON ASTM A-126 CL. B
P-2	1	MAIN STEM	BRONZE ASTM B584 ALLOY 864
P-3	1	RETAINER O-RING #226	BUNA N
P-4	1	BODY	CAST IRON ASTM A -126 CL. B
P-5	2	WINDOW GLASS	LEXAN - UV STABILIZED
P-6	2	OPEN TARGET	CAST ALUMINUM
P-7	2	SHUT TARGET	CAST ALUMINUM
P-8	1	CARRIER ASSEMBLY	
	1	CARRIER NUT	BRONZE ASTM B584 ALLOY 844
	2	CARRIER PLATE	1/16" SHEET METAL
	4	TARGET RETAINER	16 GA. 302 S.S.
	8	#10-24 X 1/2' PAN HEAD SCREW	ZINC PLATED STEEL
	4	#10-24 HEX NUT	ZINC PLATED STEEL
P-9	1	1/2' NPT PIPE PLUG	MALL. IRON
P-10	1	3/8" EYEBOLT #23	FORGED STEEL
P-11	1	3/8-16X1" HEX CAPSCREW	ZINC PLATED STEEL
P-12	1	EXTENSIONROD 1' SQ.	AISI M1020 HRS
P-13	1	NUT SOCKET	CAST IRON ASTM A-126 CL. B
P-14	1	5/16" X 3-1/4" DRIVE PIN	BRASS
P-15	2	3/4" SQ. CUP POINT HARDENED SET SCREW	STEEL, BLACK OXIDE
P-16	1	TELESCOPING BARREL	CAST IRON ASTM A-126 CL. B
P-17	1	STANDPIPE	4" D.I. CI 52 ANSI A21.51
P-18	1	BASE FLANGE	CAST IRON ASTM A-126, CL. B
P-19	2	3/4" SQ. CUP POINT HARDENED SET SCREW	STEEL, BLACK OXIDE
P-20	4	5/8" X 2-1/4" HEX CAPSCREW	ZINC PLATED STEEL
P-21	4	5/8" HEX NUT	ZINC PLATED STEEL

INDICATOR POST STYLE 2945 & 2945 A  
TRENCH DEPTHS FOR GATE VALVES  
UL & FM APPROVED

**CLOW VALVE COMPANY**

TELESCOPING BARREL 2945 A TRENCH DEPTH LIMITS						
VALVE SIZE	B SIZE		C SIZE		D SIZE	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
4"	31"	51"	48"	68"	66"	86"
6"	35"	55"	53"	73"	71"	91"
8"	40"	60"	58"	78"	76"	96"
10"	45"	65"	63"	83"	81"	101"
12"	49"	69"	67"	87"	85"	105"
14"	54"	74"	72"	92"	90"	110"

FIXED LENGTH POSTS 2945 MAXIMUM TRENCH DEPTH			
VALVE SIZE	F SIZE	G SIZE	H SIZE
4"	45-1/2"	63-1/2"	87-1/2"
6"	49-1/2"	67-1/2"	91-1/2"
8"	54-1/2"	72-1/2"	96-1/2"
10"	59"	77"	101"
12"	64"	82"	106"
14"	69"	87"	111"

INDICATOR POST  
MODEL 2945A & 2945 UL/FM  
INSTALLATION INSTRUCTIONS

**CLOW VALVE COMPANY**

**Installation** – The valve should be opened to the fully open position before proceeding with the Indicator Post Installation.

**1. Disassembly of the Indicator Post Unit**

Telescoping Barrel Units

Remove the body from the end of the barrel.  
Loosen the two set screws on the barrel and slide off the top of the standpipe.

Fixed Length Units – Remove the body from the end of the standpipe

**2. Base Flange Installation:**

Attach the base flange along with the standpipe to the valve plate using the four 5/8" bolts and nuts provided.

**3. Grade Line Adjustments:**

Telescoping Barrel Units

Lower the barrel over the standpipe until the grade line mark on the barrel is at ground line height and then tighten the two set screws securely.

Fixed Length Units

Cut the required length off the bottom of the standpipe so that the indicated grade line of the standpipe is at the ground line height and then secure to the base flange by tightening the two set screws.

**4. Extension Rod Adjustments:**

Lower the extension rod into the barrel/standpipe, placing the end socket over the valve operating nut.

It is necessary that the extension rod engage the main stem a minimum of 2 inches but not more than 5 inches.

To check for correct engagement, the end of the extension rod should be from 7 inches to 10 inches above the top of the standpipe (Fixed Length Units) or the top of the telescoping barrel.

**5. Target (Open and Shut) Adjustments**

Remove the target assembly from inside the body by rotating the stem nut counter-clockwise.

Loosen the target retainer screws, but do not remove them.

INDICATOR POST  
 MODEL 2945A & 2945 UL/FM  
 INSTALLATION INSTRUCTIONS

**CLOW VALVE COMPANY**

**5. Cont'd**

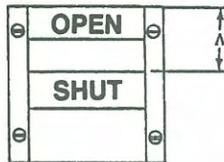
Open Left Valves

Move the OPEN target to the top of the plate.

Note: Position of the SHUT target can be determined by the following chart:

Valve Size	4"	6"	8"	10"	12"	14"
Gate Valve "A"	1"	1-3/8"	1-3/16"	2-3/16"	2-5/8"	3"
R/W Valve "A"	7/8"	1-5/16"	1-11/16"	2-1/8"	2-1/2"	NA

Position the SHUT target as indicated below and tighten the retainer screws until snug. Avoid over tightening. Repeat the procedure for the other side.



Open Right Valves

The procedure is similar as for open left, but with two differences:

- A: The open target is placed **below** the shut target.
- B: The open target is placed at the very **bottom** of the plate.

The position of the shut target valve above the open target is then determined and set as described above.

Maintenance

1. Lubrication

Oil upper bearing at least once per year, adding several drops of oil in the hole located on the top of the main stem flange.

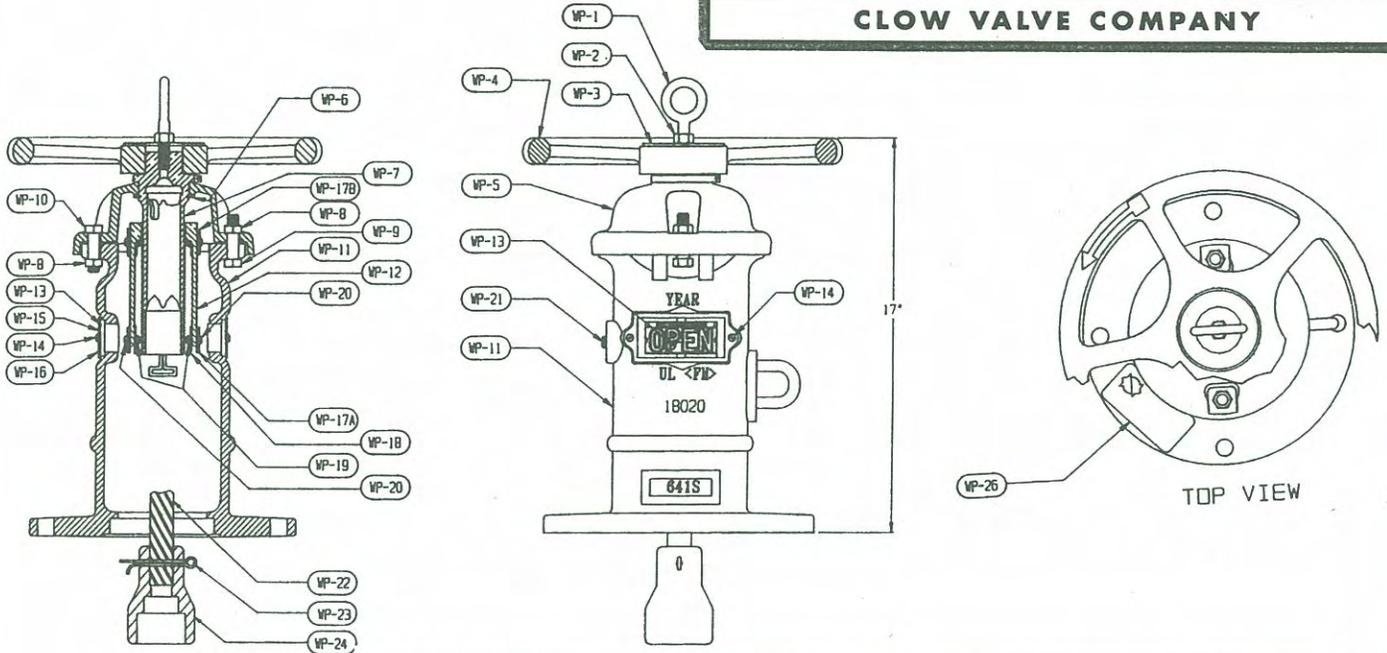
Access to lubrication hole is gained by raising the locking wrench off the main stem nut.

2. Operation

The large mechanism will travel off the threads of the main stem in both directions should the targets or target mechanism be positioned incorrectly. Should this happen, readjust targets. If the target mechanism falls from the main stem, it will be stopped a short distance below the window.

WALL STYLE INDICATOR POST  
F-5765

**CLOW VALVE COMPANY**



NOTE. 9 TO 39+ TURNS

NO.	ITEM	QTY	MATL	SPEC	REMARKS	PART NO.
WP-1	Eye Bolt 1/2-UNC 2" LG	1	Stl		1/2-UNC	440253P
WP-2	Nut 1/2-UNC Plated	1	Stl		Eye Bolt	477495P
WP-3	Washer 5/8 0 Plated	1	Stl			445834P
WP-4	Handwheel-14" Dia.	1	Cl			446015P
WP-5	Cover	1	Cl	A126-B		3180282
WP-6	Ret. Ring #5100-225	1	Stl		Zinc Plate	443599P
WP-7	Oper. Stem Nut	1	BR	AWWA 'A'		3180165
WP-8	Nuts 1/2-UNC Plated	2	RP Stl		Heavy Hex	442482P
WP-9	Bolt 1/2-UNC x 2"	1	RP Stl	A304	Hex Drilled-1 End	444419P
WP-10	Bolt 1/2-UNC x 1.75"	1	RP Stl	A304	Hex	444348P
WP-11	Top Sect.	1	Cl	A126-B		3180203
WP-12	Target Nut	1	Br	AWWA 'A'		3180172
WP-13	Windows - Flat	2	Plastic			441982P
WP-14	Screws 1/40 3/4 Self Tap	4				444435P
WP-15	Ferrule	2	Stl			441587P
WP-16	Protective Steel Plate	2	Stl			443344P
WP-17A	Target Plate (Open)	2	Alum			443348P
WP-17B	Target Plate (Shut)	2	Alum			443350P
WP-18	Clamps - Plated	4	Stl			440734P
WP-19	Nuts 1/4-20 UNC	8	Stl		Sq. Hd.	442576P
WP-20	Mach Screw 1/4-20 x 7/8LG	8	Br		Rd. Hd.	444432P
WP-21	Pipe Plug-1/2 NPT	1	Iron		Socket Hd.	443476P
WP-22/23/24	S/A Stem	1 Ea.				2180912
WP-22	Stem - (Ord. by Lg)	1	Stl		1" Square	445312L
WP-23	Cotter Pin 1/4 x 3 Lg	1	Br			442190P
WP-24	Crane Coupling	1	Cl			318035&
WP-25	Adjustment Card	1			Not Shown	440443P
WP-26	Marking Tag	1	Mylar		UL Rated Matl	