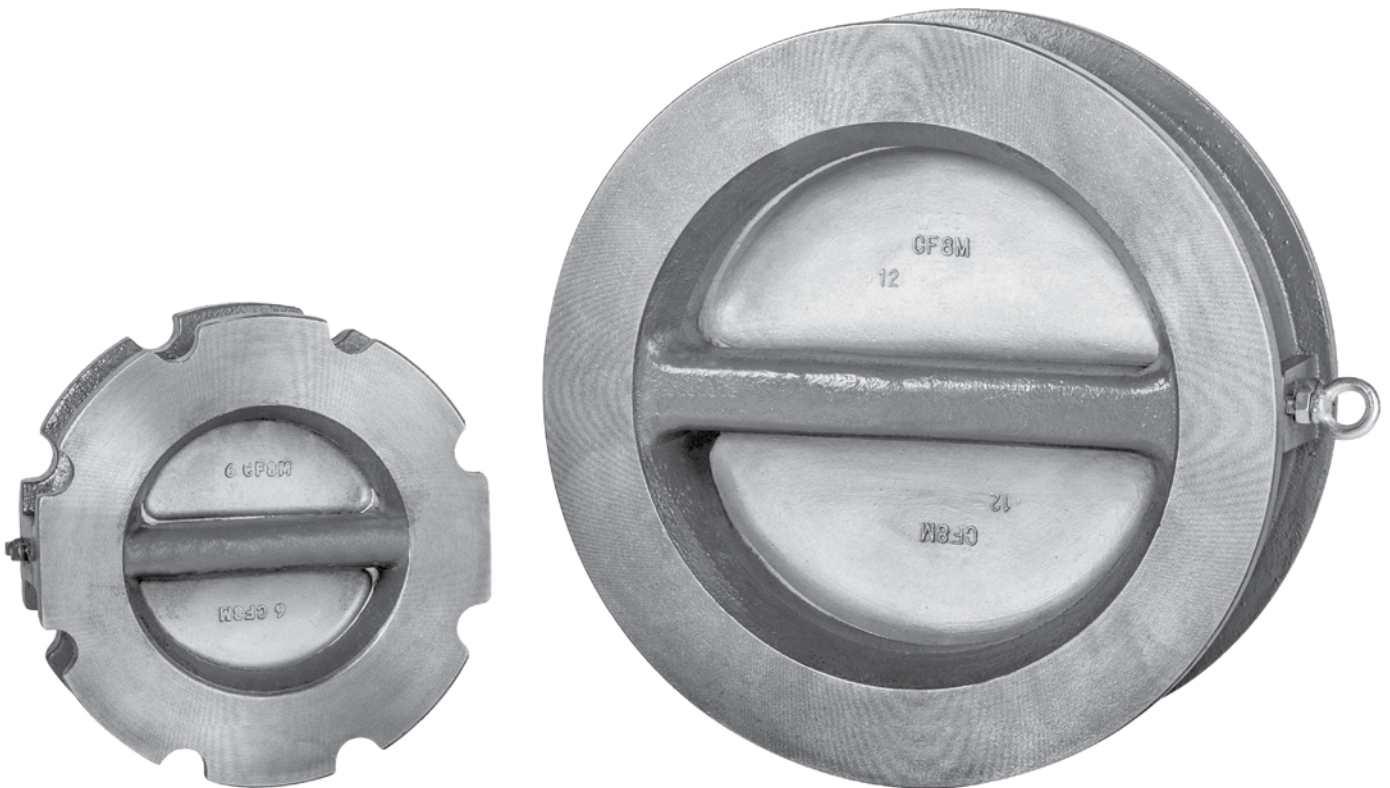
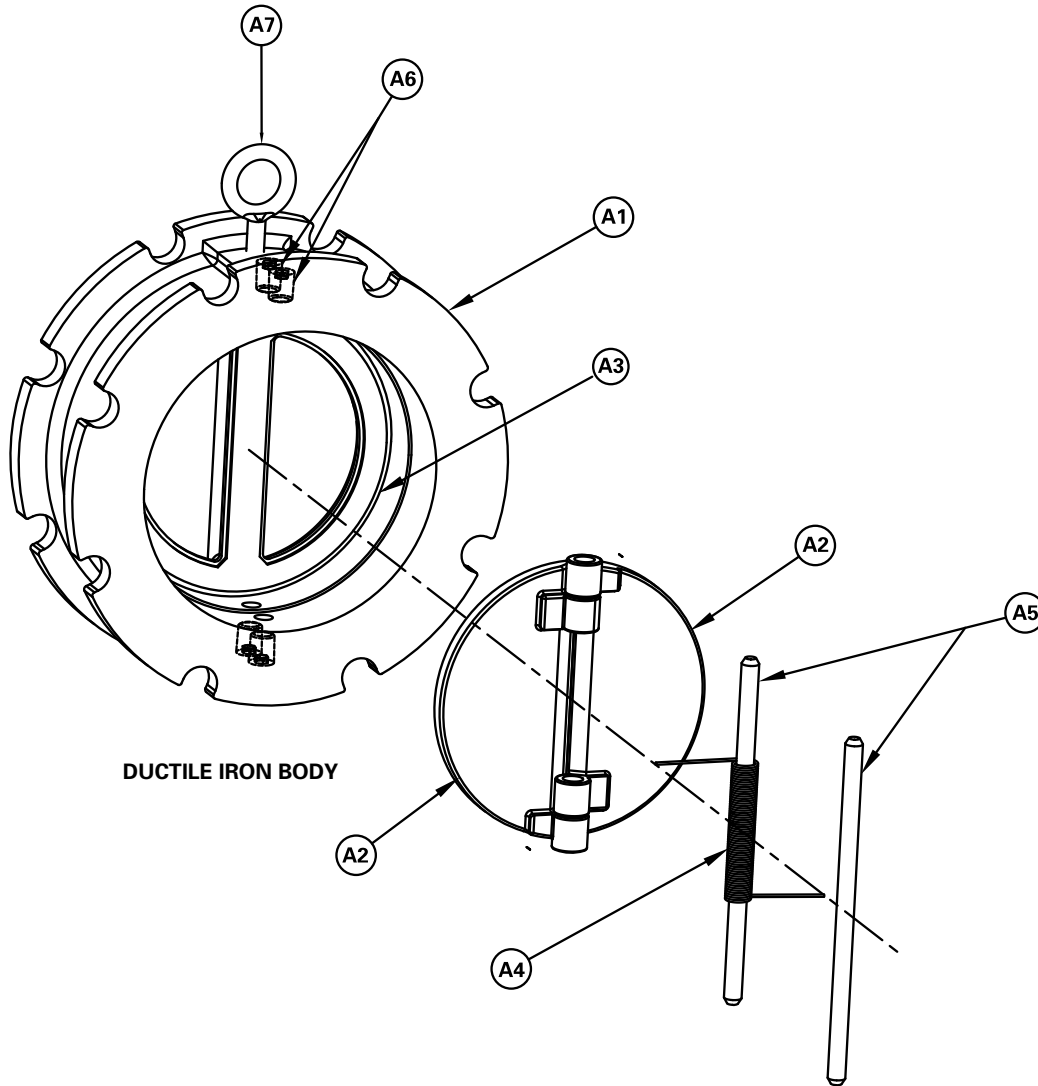




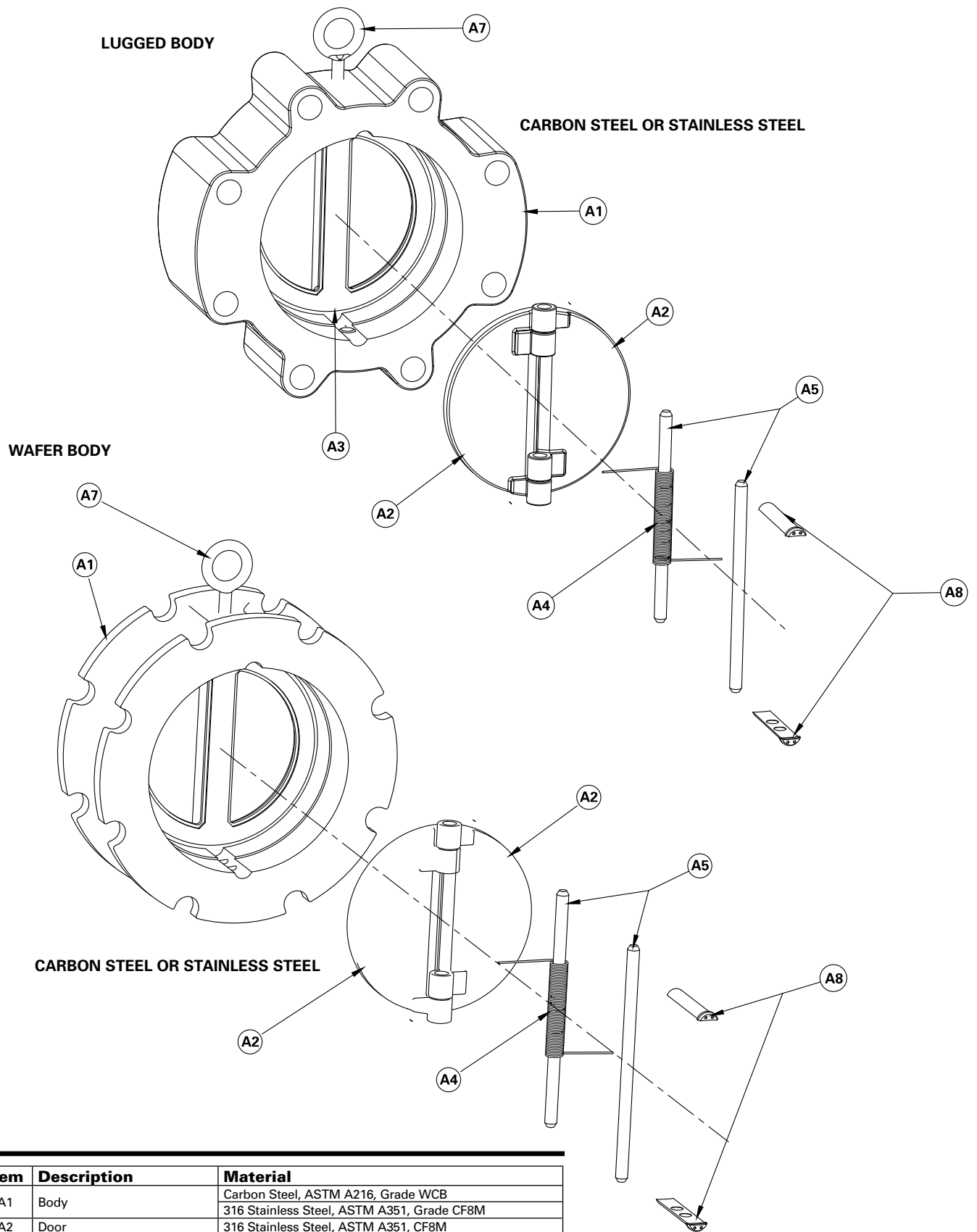
## APCO CDD-9000T DOUBLE DOOR CHECK VALVE TECHNICAL SPECIFICATIONS



# Materials of Construction



Item	Description	Material
A1	Body	Ductile Iron, ASTM A536
A2	Door	Aluminum Bronze, ASTM B148, Alloy 952 316 Stainless Steel, ASTM A351, CF8M
A3	Seat	EPDM - Terpolymer of Ethylene, Propylene and a Diene NBR - Acrylonitrile-Butadiene FKM - Fluoro Rubber
A4	Spring	316 Stainless Steel
A5	Hinge Pin / Stop Pin	316 Stainless Steel
A6	Pin Retainer (NPT Plug)	Carbon Steel
A7	Lifting Eye Bolt (10" & larger)	Carbon Steel



Item	Description	Material
A1	Body	Carbon Steel, ASTM A216, Grade WCB 316 Stainless Steel, ASTM A351, Grade CF8M
A2	Door	316 Stainless Steel, ASTM A351, CF8M
A3	Seat	FKM - Fluoro Rubber NBR - Acrylonitrile-Butadiene Metal - same as body material on 316 Stainless Steel body; Carbon Steel with Stainless Steel inlay on Carbon Steel body.
A4	Spring	316 Stainless Steel
A5	Hinge Pin / Stop Pin	316 Stainless Steel
A7	Lifting Eye Bolt (8" & larger)	Carbon Steel
A8	Cap	Carbon Steel, ASTM A105 316 Stainless Steel, ASTM A351, Grade CF8M

# Valve Selection

## Shutoff Capabilities

Seat-Type	Shutoff
Resilient	Bubble Tight Seal that Meets or Exceeds API 598 Test Requirements
Metal	Meets or exceeds API 598 Test Requirements

## Pressure Ratings

Sizes 2-6" (50-150mm) wafer bodies are dual pressure rated for both ASME B16.42/B16.5 Class 150 and 300.

Valve Size	Pressure Rating
2-6" Class 300 Ductile Iron	640 psi (4412 kPa) CWP*
2-36" Class 150 Ductile Iron	250 psi (1723 kPa) CWP*
2-6" Carbon Steel	740 psi (5100 kPa) CWP*
2-36" Carbon Steel	285 psi (1960 kPa) CWP*
2-6" Stainless Steel	720 psi (4965 kPa) CWP*
2-36" Stainless Steel	275 psi (1900 kPa) CWP*

\* Cold Working Pressure

## Temperature Ratings

Seat Material	Temperature Rating
EPDM - Terpolymer of Ethylene, Propylene and a Diene	-20 to 300° F (-28 to 184° C)
NBR - Acrylonitrile-Butadiene	-20 to 250° F (-28 to 121° C)
FKM - Fluoro Rubber	-40 to 400° F (-40 to 204° C)

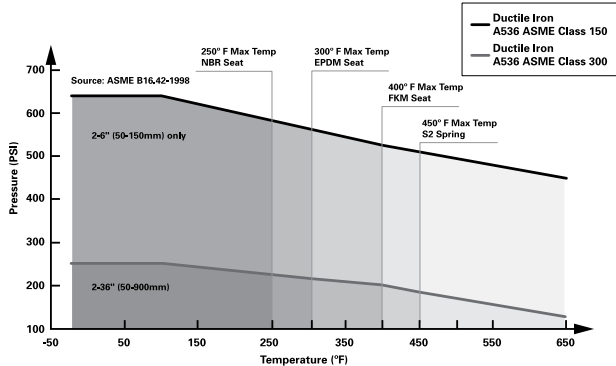
## Applicable Standards

APCO (CDD) Double Door Check Valves are designed and/or tested to meet the following standards:	
ASME/API 594	Valve Design Manufacture & Valve Face to Face Dimensions, Carbon Steel or Stainless Steel Only
ASME B16.5	Flange Dimensions & Pressure Ratings
ASME B16.34	Valves - Flanged, Threaded, and Welding End
ASME B16.42	Ductile Iron Pipe Flanges and Flanged Fittings
API 598	Valve Inspection and Pressure Test

## Velocity Range

2-36" 50-900mm	Velocity not to exceed 10 ft/sec or go below 5 ft/sec
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## Ductile Iron



## Flow Parameters

Valve Size	Cv* Kv* 100% Open
2"	62
50mm	54
2.5"	110
65mm	95
3"	175
80mm	151
4"	350
100mm	303
6"	850
150mm	735
8"	1500
200mm	1298
10"	2400
250mm	2076
12"	3700
300mm	3201
14"	5400
350mm	4671
16"	8250
400mm	7136
18"	10400
450mm	8996
20"	14200
500mm	12283
24"	23000
600mm	19895
30"	37000
750mm	32000
36"	55000
900mm	47600

\*Cv = Flow in GPM of water at 1 psi pressure drop.  
\*Kv = Flow in m3/hr. of water at 100 kPa pressure drop.

## Weights

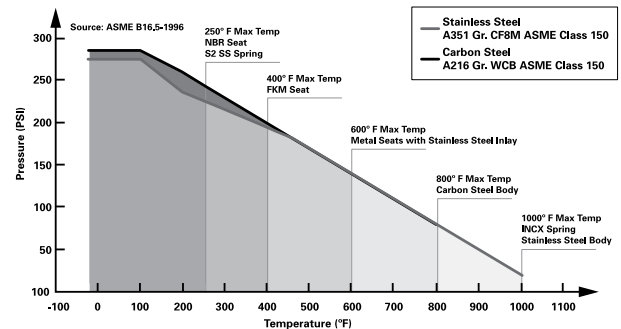
Valve Size	Ductile Iron	Carbon Steel / Stainless Steel (Lugged)
2"	4	8
50mm	2	4
2.5"	5	Contact DeZURIK
65mm	3	Contact DeZURIK
3"	7	16
80mm	4	8
4"	14	28
100mm	7	13
6"	27	50
150mm	13	23
8"	43	95
200mm	20	44
10"	70	150
250mm	32	69
12"	108	242
300mm	50	110
14"	175	Contact DeZURIK
350mm	80	
16"	200	
400mm	91	
18"	258	
450mm	118	
20"	345	
500mm	157	
24"	460	
600mm	209	
30"	1000	
750mm	457	
36"	1900	
900mm	865	

Pounds  
Kilograms

## Pressure - Temperature Ratings

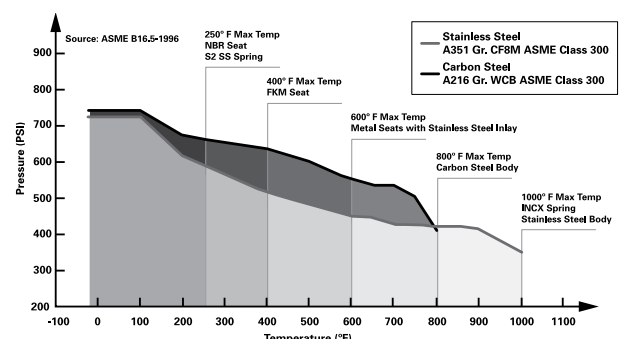
### Carbon Steel & Stainless Steel

ASME Class 150, 8" (200mm) and larger wafer bodies, all lugged bodies



### Carbon Steel & Stainless Steel

ASME Class 300, 2-6" (50-150mm) wafer bodies



# Ordering

To order, simply complete the valve order code from information shown.

## Valve Style

### Give valve style code as follows:

CDD = Double Door Check Valve

## Valve Size

### Give valve size code as follows:

2	=	2"	50mm	14	=	14"	350mm
2.5	=	2.5"	65mm	16	=	16"	400mm
3	=	3"	80mm	18	=	18"	450mm
4	=	4"	100mm	20	=	20"	500mm
6	=	6"	150mm	24	=	24"	600mm
8	=	8"	200mm	30	=	30"	750mm
10	=	10"	250mm	36	=	36"	900mm
12	=	12"	300mm				

## Body Style

### Give body style code as follows:

9000T = Double Door Check

## End Connection

### Give end connection code as follows:

#### Ductile Iron Body

W1W2 = Wafer ASME 250/300 (2-6" Only)  
W1 = Wafer ASME 125/150 (8-36" Only)

#### Carbon Steel and Stainless Steel Bodies

W1W2 = Wafer ASME 250/300 (2-6" Only)  
W1 = Wafer ASME 125/150  
L1 = Lugged ASME 125/150

## Body Material

### Give body material code as follows:

DI = Ductile Iron  
CS = Carbon Steel, 2-36" (50-900mm) only  
S2 = 316 Stainless Steel, 2-36" (50-900mm) only

## Door Material

### Give door material code as follows:

#### Ductile Iron Body

ALB = Aluminum Bronze  
S2 = 316 Stainless Steel

#### Carbon Steel and Stainless Steel Bodies

S2 = 316 Stainless Steel

## Seat Material

### Give seat material code as follows:

EPDM = Terpolymer of Ethylene, Propylene and a Diene,  
-20° to 300° F (-28° to 184° C)

NBR = Acrylonitrile-Butadiene  
(Not available with 316 Stainless Steel bodies)  
-20° to 250° F (-28° to 121° C)

FKM = Fluoro Rubber (S2 door material only)  
-40° to 400° F (-40° to 204° C)

M = Metal, same as body material. CS body material with "M"  
seat material has a Stainless Steel inlay

## Spring Material

### Give spring material code as follows:

#### Ductile Iron Body

S2 = 316 Stainless Steel

#### Carbon Steel and Stainless Steel Bodies

INCX = Nickel-chromium alloy

## Hinge & Stop Pin Material

### Give hinge & pin stop material code as follows:

S2 = 316 Stainless Steel

## Options

### Give options code as follows:

DTR = DeZURIK Standard Certified Hydrostatic & Seat Test Report

## Ordering Example:

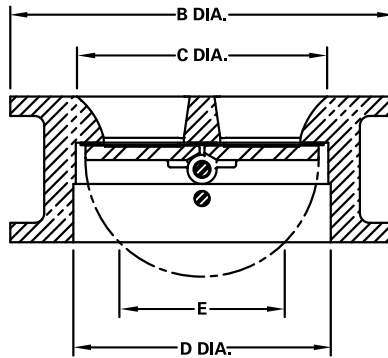
CDD,10,9000T,W1,DI,S2-NBR-S2-S2,DTR\*

# Dimensions

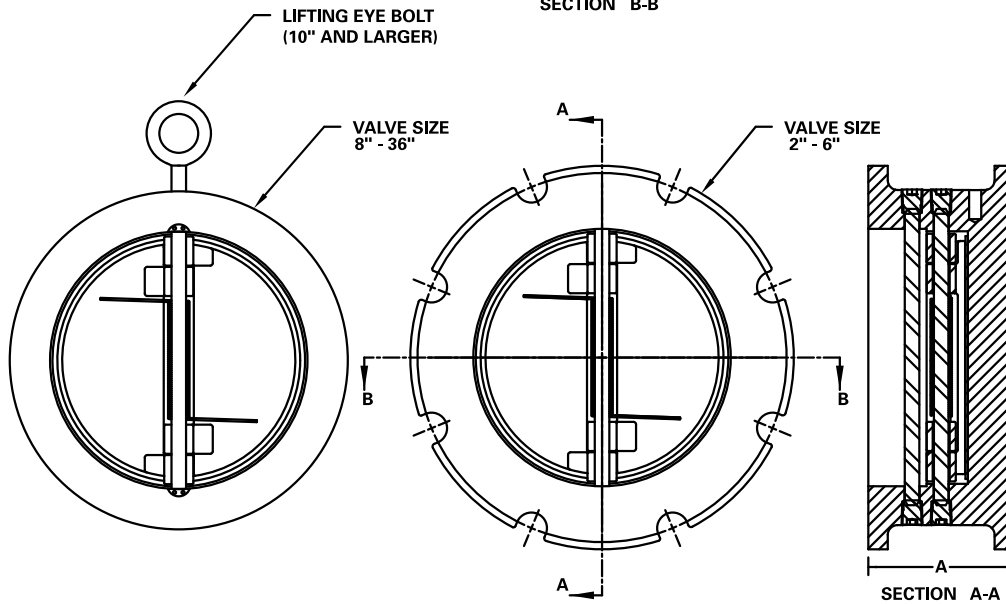
## Ductile Iron Body

Valve Size	A	B Diameter	C Diameter	D Diameter	E
2"	2.12	4.37	2.00	2.62	0.00
50mm	54	111	51	67	0
2.5"	2.12	5.12	2.50	3.12	1.26
65mm	54	130	64	79	32
3"	2.25	5.75	3.00	3.87	2.36
80mm	57	146	76	98	60
4"	2.50	7.12	4.00	4.75	3.43
100mm	64	181	102	121	87
6"	3.00	9.87	6.00	7.00	5.32
150mm	76	251	152	178	135
8"	3.75	11.00	8.00	9.00	7.48
200mm	95	279	203	229	190
10"	4.25	13.37	10.00	11.00	9.45
250mm	108	340	254	279	240
12"	5.62	16.12	12.00	13.25	11.26
300mm	143	409	305	337	286
14"	7.25	17.75	14.00	14.25	11.26
350mm	184	451	356	362	286
16"	7.50	20.25	16.00	16.25	13.70
400mm	191	514	406	413	348
18"	8.00	21.62	18.00	18.12	15.63
450mm	203	549	457	460	397
20"	8.37	23.87	20.00	20.12	17.64
500mm	213	606	508	511	448
24"	8.75	28.25	24.00	24.00	21.97
600mm	222	718	610	610	558
30"	12.00	34.75	30.00	30.75	28.72
750mm	305	883	762	781	730
36"	14.50	41.25	36.00	34.00	25.50
900mm	368	1048	914	865	648

Inch  
Millimeter



SECTION B-B



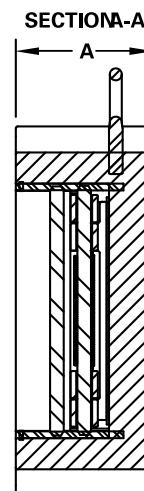
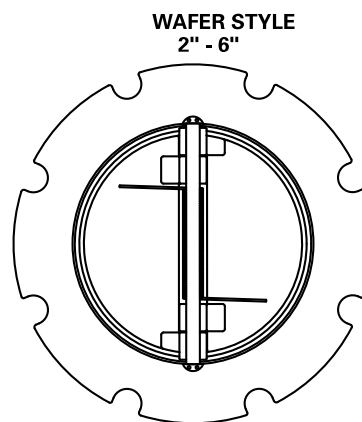
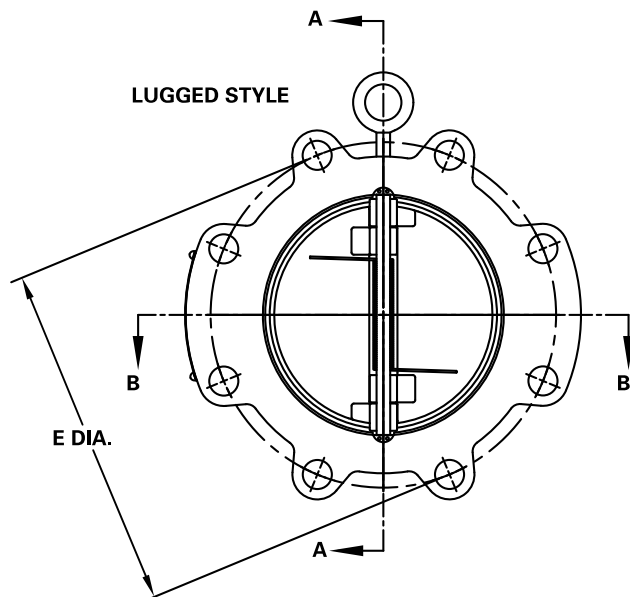
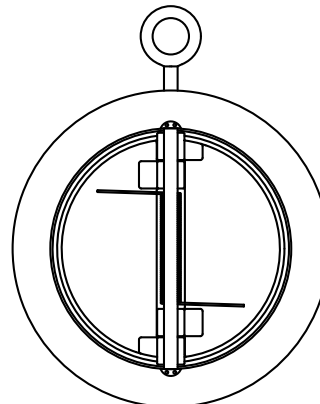
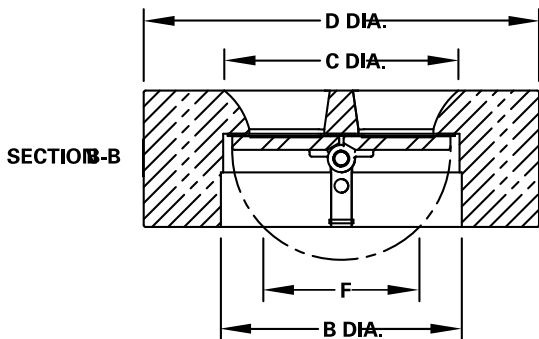
SECTION A-A

# Dimensions

## Carbon Steel or Stainless Steel Body

Valve Size	A	B Diameter	C Diameter	D Diameter	E Diameter	F
2"	2.38	2.00	2.16	4.33	4.75	0.94
50mm	60	51	55	110	121	24
2.5"	2.62	2.50	2.67	5.04	5.50	1.69
65mm	67	64	68	128	140	43
3"	2.88	3.00	3.23	5.31	6.00	2.36
80mm	73	76	82	135	152	60
4"	2.88	4.00	4.25	7.05	7.50	3.54
100mm	73	102	108	179	191	90
6"	3.87	6.52	6.38	9.81	9.50	5.31
150mm	98	166	162	249	241	135
8"	5.00	8.00	8.66	10.91	11.75	7.13
200mm	127	203	220	277	298	181
10"	5.75	10.00	10.63	13.27	14.25	8.82
250mm	146	254	270	337	362	224
12"	7.12	12.00	12.60	16.02	17.00	10.47
300mm	181	305	320	407	432	266
14"	7.25	13.26	13.78	17.64	18.75	11.81
350mm	184	337	350	448	476	300
16"	7.50	15.24	15.75	20.15	21.25	14.29
400mm	191	387	400	512	540	363
18"	8.00	17.24	17.24	21.54	Contact DeZURIK	15.87
450mm	203	438	438	547		403
20"	8.62	19.50	19.50	23.78	25.00	18.03
500mm	219	495	495	604	635	458
24"	8.75	23.42	23.42	28.15	29.50	22.28
600mm	222	595	595	715	749	566
30"	12.00	28.94	28.94	34.75	36.00	25.25
750mm	305	735	735	883	914	641
36"	14.50	34.44	34.44	41.25	42.75	25.50
900mm	368	875	875	1048	1086	648

Inch  
Millimeter



## **Sales and Service**

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