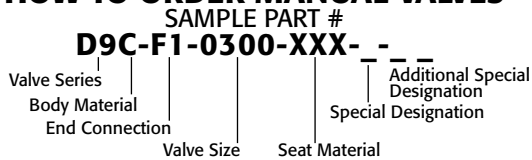


RTFE seats are standard, but various options are available for seat materials. The 50/50 STFE seat option is excellent for services that call for higher temperatures and more difficult applications, including steam. Call us for details.

### HOW TO ORDER MANUAL VALVES



See part number matrix for itemized options

### Easy to Automate!

See automated data sheets for pre-sized assemblies



**Pneumatic**



**Electric**

# Series D9 Direct Mount Split Body Flanged Ball Valve

Sizes 1/2" - 12"

Available in 316SST or WCB

ASME Class 150

Full Port Design

Superior Live Loaded Packing System

ISO 5211 Actuator Mounting Pad

Blowout Proof Stem w/ Dual Anti-Static Devices

RTFE Seats Standard

Pyramidal Stem Seal Design

Monel Ball & Stem Available

Lockable Manual Handle

### STANDARDS

Design	ASME B16.34 (fully conforms)
Face to Face	ASME B16.10
Flange Dimensions	ASME B16.5
Pressure Testing	API 598
Mounting	ISO 5211
CE Approval	2014/68/EU Module H
Safety Integrity	SIL 3; IEC 61508:2010
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



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- Page 2,3 - Materials & Dimensions
- Page 4 - Technical Data
- Page 5 - Double Acting
- Page 6 - Spring Return
- Page 7 - Electric
- Page 8 - How to Order

# Series D9

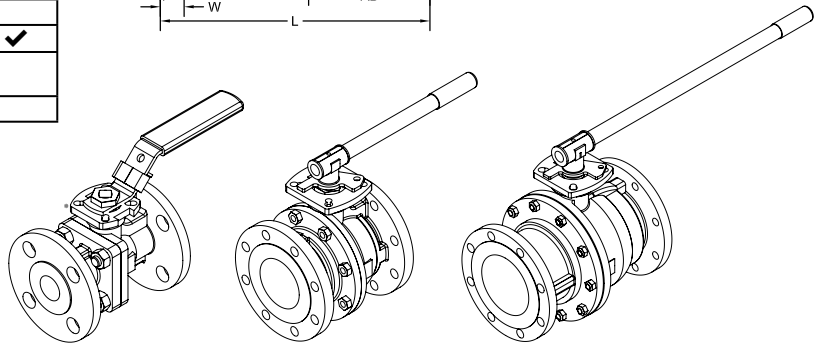
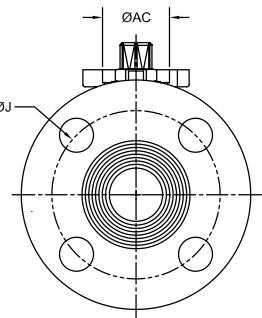
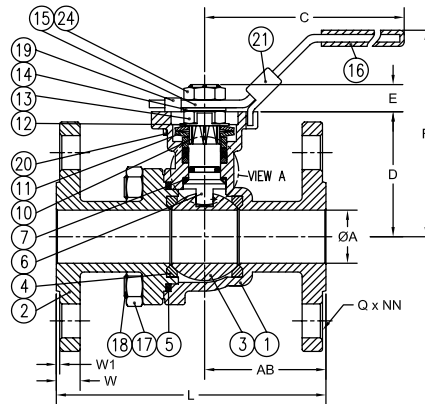
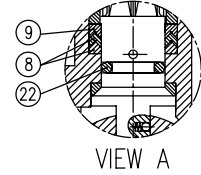
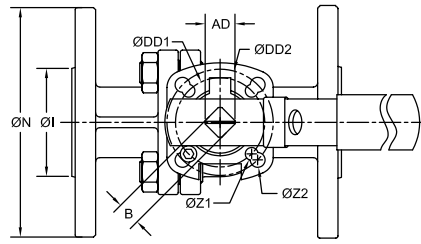
## High Performance, Full Port Split Body Ball Valve Series D9 (ASME Class 150)

1/2" to 6"

### MATERIAL LIST

NO.	PART NAME	QTY	STAINLESS STEEL	CARBON STEEL	REPAIR KIT
1	BODY	1	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB	
2	END CAP	1	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB	
3	BALL	1	ASTM A351 GRADE CF8M	ASTM A351 GRADE CF8M	
4	SEAT	2	RTFE	RTFE	✓
5	JOINT GASKET	1	TFM™-1600	TFM-1600	✓
6	STEM	1	ASTM A276 SS316	ASTM A276 SS316	
7	STEM SEAL	1	TFM™-1600	TFM-1600	✓
8	GLAND PACKING	1^	PTFE	PTFE	✓
9	GLAND WASHER	1	RTFE	RTFE	✓
10	GLAND BUSHING	1	AISI 304	AISI 304	
11	BELLEVILLE WASHER	2	AISI 301	AISI 301	
12	LOCK SADDLE	1	AISI 304	AISI 304	
13	STEM NUT	1	AISI 304	AISI 304	
14	STEM WASHER	1	AISI 304	AISI 304	
15	HANDLE	1	AISI 304	AISI 304	
16	HANDLE SLEEVE	1	VINYL	VINYL	
17	BODY NUT	*	ASTM A194 GRADE 8	ASTM A194 GRADE 8	
18	BODY STUD	*	ASTM A193 GRADE B8	ASTM A193 GRADE B8	
19	STOP BOLT	1	AISI 304	AISI 304	
20	STOP BOLT NUT	1	AISI 304	AISI 304	
21	HANDLE LOCK	1	AISI 304	AISI 304	
22	O-RING	1	FKM	FKM	✓
23	ANTI-STATIC DEVICE	2	AISI 316	AISI 316	
24	HANDLE NUT	1	AISI 304	AISI 304	

^ PACKING SET  
 \* 1/2" THRU 2" QTY = 4 PCS  
 \* 2-1/2" THRU 4" QTY = 8 PCS  
 \* 6" QTY = 10 PCS



BENT HANDLE SIZES 1/2" - 2-1/2"    PIPE HANDLE SIZES 3" - 4"  
 PIPE HANDLE SIZE 6"  
 NOTE: A-T CONTROLS RECOMMENDS A GEAR FOR 6" VALVES AND LARGER

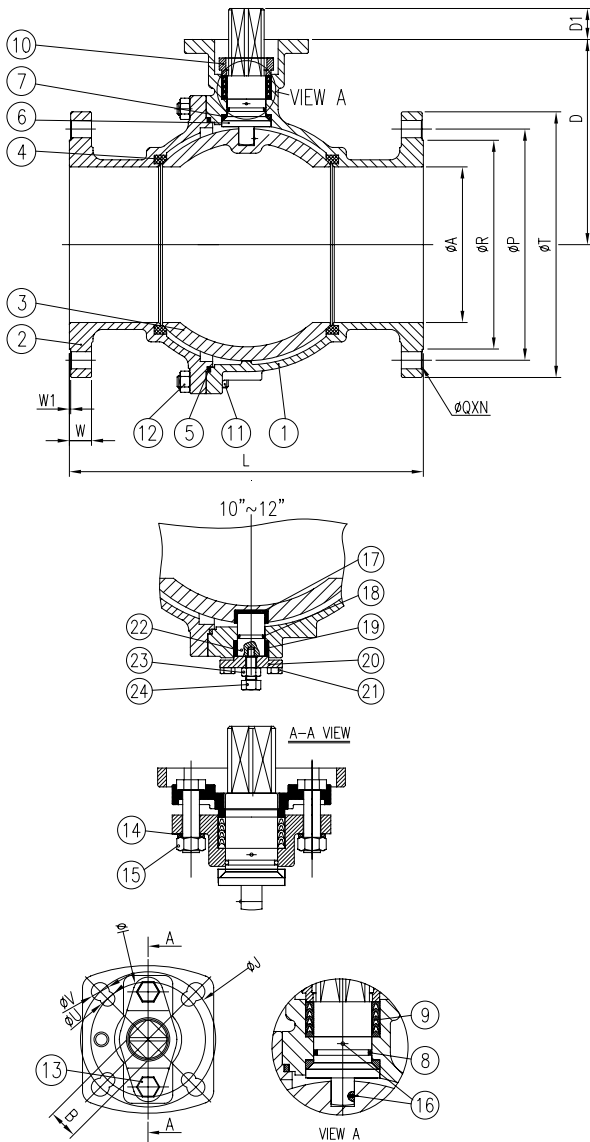
### DIMENSIONS (IN)

SIZE	A	B	C	D	E	F	I	J	L	N	Q	W	W1	Z1	Z2	AB	AC	AD	DD1	DD2	NN	ISO 5211	(LBS)
1/2"	0.59	0.433	6.50	1.84	0.39	3.30	1.38	2.38	4.26	3.50	0.63	0.44	0.06	0.26	0.28	1.84	1.26	0.55	1.654	1.969	4	F04/F05	4.0
3/4"	0.79	0.433	6.50	2.02	0.39	3.45	1.69	2.74	4.62	3.88	0.63	0.44	0.06	0.26	0.28	2.18	1.26	0.55	1.654	1.969	4	F04/F05	5.0
1"	0.98	0.433	6.50	2.31	0.41	3.81	2.00	3.12	5.00	4.25	0.63	0.44	0.06	0.26	0.28	2.21	1.26	0.55	1.654	1.969	4	F04/F05	7.0
1-1/2"	1.50	0.748	10.32	3.51	0.75	5.60	2.88	3.88	6.50	5.00	0.63	0.56	0.06	0.39	0.47	2.83	2.09	0.94	2.756	4.016	4	F07/F10	14.5
2"	1.97	0.748	10.32	3.80	0.75	5.78	3.62	4.75	7.02	6.00	0.75	0.63	0.06	0.39	0.47	3.38	2.09	0.94	2.756	4.016	4	F07/F10	20.5
2-1/2"	2.56	0.748	10.32	4.57	0.75	6.75	4.12	5.50	7.48	7.00	0.75	0.69	0.06	0.39	0.47	3.06	2.09	0.94	2.756	4.016	4	F07/F10	31.0
3"	3.15	0.866	14.37	5.22	0.91	8.05	5.00	6.00	8.01	7.50	0.75	0.75	0.06	0.47	0.55	4.01	2.55	1.18	4.016	4.921	4	F10/F12	41.0
4"	3.94	0.866	14.37	6.18	0.91	9.00	6.19	7.50	9.00	9.00	0.75	0.94	0.06	0.47	0.55	4.07	2.55	1.18	4.016	4.921	8	F10/F12	67.5
6"	5.91	1.063	29.53	8.28	1.12	12.50	8.50	9.50	15.50	11.0	0.87	1.00	0.06	0.55	0.71	7.00	2.97	1.41	4.921	5.511	8	F12/F14	145.0

# High Performance, Full Port Split Body Ball Valve Series D9 (ASME Class 150)

# Series D9

8" to 12"



### MATERIAL LIST

NO.	PART NAME	QTY	STAINLESS STEEL		CARBON STEEL
			ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB	
1	BODY	1	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB	
2	END CAP	1	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB	
3	BALL	1	ASTM A351 GRADE CF8M	ASTM A351 GRADE CF8M	
4	SEAT	2	RTFE	RTFE	
5	JOINT GASKET	1	PTFE	PTFE	
6	STEM	1	ASTM A276 SS316	ASTM A276 SS316	
7	STEM SEAL	1	RTFE	RTFE	
8	STEM O-RING	1	FKM	FKM	
9	STEM PACKING	1 SET	PTFE	PTFE	
10	GLAND	1	ASTM A193 GRADE CF8	ASTM A193 GRADE CF8	
11	BODY BOLT	*	ASTM A193 GRADE B8	ASTM A193 GRADE B8	
12	BODY BOLT NUT	*	ASTM A193 GRADE 8	ASTM A193 GRADE 8	
13	GLAND BOLT	2	AISI 304	AISI 304	
14	BOLT WASHER	2	AISI 304	AISI 304	
15	BOLT NUT	2	AISI 304	AISI 304	
16	ANTI-STATIC DEVICE	2	AISI 316	AISI 316	
17	TRUNNION BEARING	1	50/50 STFE	50/50 STFE	
18	TRUNNION O-RING	1	FKM	FKM	
19	STEM PACKING	1 SET	RTFE	RTFE	
20	SUPPORT GLAND	1	AISI 304	AISI 304	
21	TRUNNION GLAND BOLT	4	AISI 304	AISI 304	
22	SUPPORT GLAND PIN	1	AISI 316	AISI 316	
23	SET NUT	1	AISI 304	AISI 304	
24	TUNING SCREW	1	AISI 304	AISI 304	

\* FOR 8"=12 PCS OF BOLTS AND BOLT NUTS  
 \* FOR 10"=16 PCS OF BOLTS AND BOLT NUTS  
 \* FOR 12"=24 PCS OF BOLTS AND BOLT NUTS

MATERIALS LISTED ABOVE ARE FOR THE STANDARD CONFIGURATION, OTHER MATERIALS ARE AVAILABLE UPON REQUEST

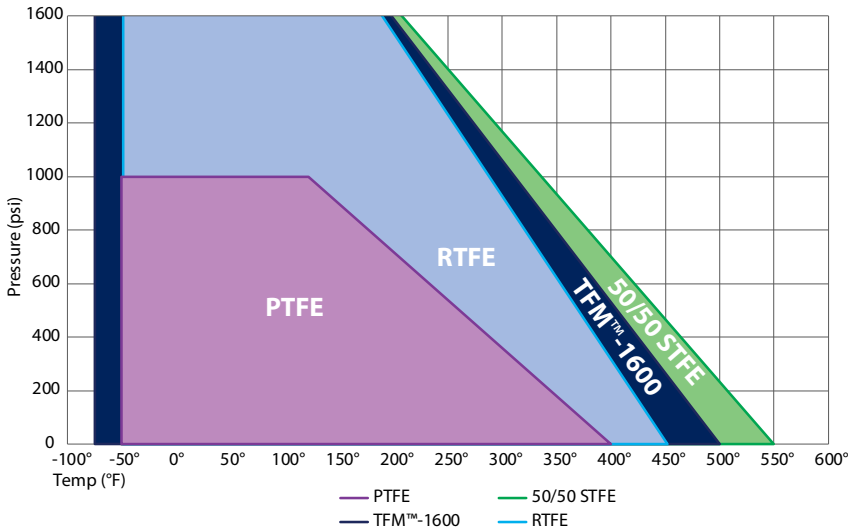
### DIMENSIONS (IN)

SIZE	Ø A	B	D	D1	ØI	ØJ	L	N	ØP	ØQ	ØR	ØT	W	W1	ØU	ØV	ISO 5211	(LBS)
8"	7.91	1.417	10.43	1.57	5.512	6.496	18.00	8	11.75	0.87	10.62	13.50	1.12	0.06	0.71	0.87	F14/F16	208
10"	9.92	1.811	11.81	1.77	—	6.496	21.00	12	14.25	1.00	12.76	16.00	1.19	0.06	—	0.87	F16	447
12"	11.93	1.811	13.39	1.77	—	6.496	24.00	12	17.00	1.00	15.00	19.00	1.25	0.06	—	0.87	F16	750

# Series D9

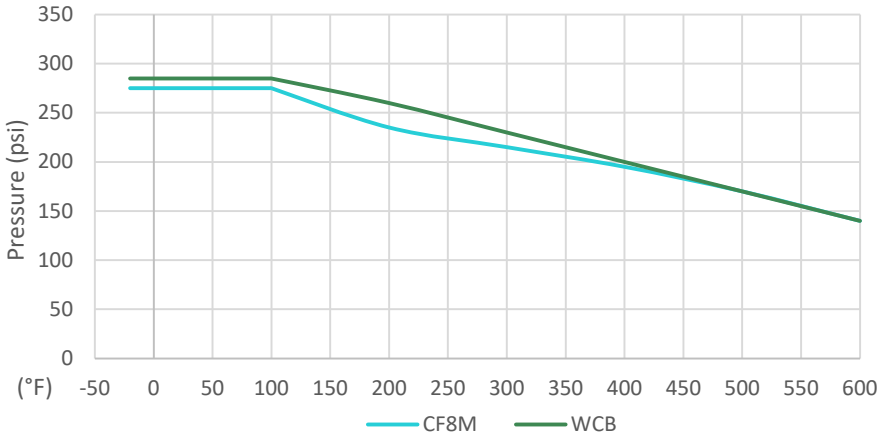
## High Performance, Full Port Split Body Ball Valve Series D9 (ASME Class 150)

**Pressure vs. Temperature - Series D9/FD9-F1**  
Seat Pressure Ratings



Temp	Pressure - Seat Material			
	RTFE	STFE	PTFE	TFM™-1600
-75°				2000
-50°	2000	2000	1000	2000
100°	2000	2000	1000	2000
122°	2000	2000	1000	2000
150°	1829	1869	899	1852
200°	1524	1636	719	1587
250°	1220	1402	540	1323
300°	915	1168	360	1058
350°	610	935	180	794
400°	305	701	0	529
450°	0	467		265
500°		234		0
550°		0		

**Pressure vs. Temperature - Series D9/FD9-F1**



Temp (°F)	WCB psi	CF8M psi
-20°	285	275
100°	285	275
200°	260	235
300°	230	215
400°	200	195
500°	170	170
600°	140	140

**Component Temperature Ratings**

COMPONENT	MATERIAL	TEMPERATURE
Stem Seal	TFM™-1600	-75°F to 500°F
Gaskets	TFM™-1600	-75°F to 500°F
Seats (Other Materials Available)	PTFE	-50°F to 400°F
	RTFE (standard)	-50°F to 450°F
	TFM™-1600	-75°F to 500°F
	50/50 STFE	-50°F to 550°F
O-Rings	FKM (standard)	-20°F to 450°F
	Markez® Z1028	5°F to 608°F
	Kalrez® 4079	30°F to 600°F
	Chemraz® 505	-22°F to 446°F
	Kalrez® 6375	-4°F to 527°F
	Perlast® G75M	5°F to 500°F
	Chemraz® 564	-40°F to 445°F
	Low Temp Buna	-65°F to 275°F
	EPDM	-70°F to 250°F
	Silicone	-60°F to 400°F

NOTE:  
At temperature, valves are limited by either the valve body/end cap pressure ratings, seat pressure ratings, or packing/stem seal/gaskets; whichever is lower.

**Break Away Torque for RTFE Seats**

SIZE	IN-LBS.
1/2"	45
3/4"	73
1"	91
1-1/2"	230
2"	297
2-1/2"	535
3"	768
4"	1250
6"	3000
8"	6,500
10"	13,000*
12"	26,000*

\*NOTE: 10" & 12" torques are at 100 psig with clean, lubricating fluid. Please consult factory for torques at full differential pressure.

Published torques are based on full differential pressure with clean water. Consult the Application Sizing Guide for assistance with sizing actuators.

SIZE	Cv
1/2"	15
3/4"	45
1"	85
1-1/2"	275
2"	460
2-1/2"	700
3"	1,100
4"	2,200
6"	5,150
8"	10,000
10"	16,400
12"	23,800

# Pneumatic Double Acting

## Automated Ball Valve Package

Series D9  
ASME Class 150  
Flanged Ball Valve  
Direct Mount

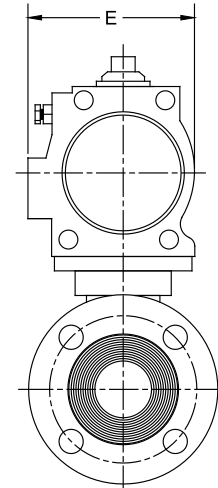
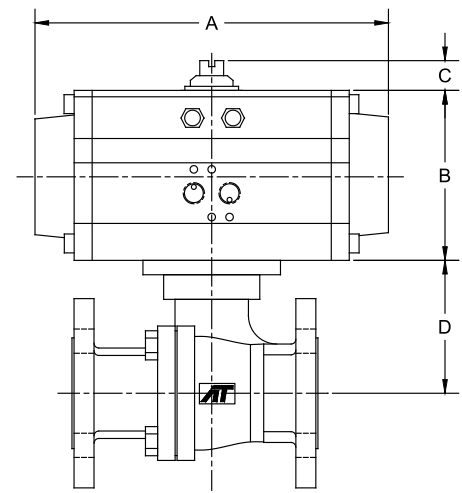
Sizes 1/2"-12"  
Available in 316SST or WCB  
ASME Class 150  
Full Port Design  
Superior Live Loaded Packing System  
Blowout Proof Stem w/ Dual Anti-Static Devices  
RTFE Seats Standard  
Pyramidal Stem Seal Design  
Monel Ball & Stem Available

### STANDARDS

Design	ASME B16.34 (fully conforms)
Face to Face	ASME B16.10
Flange Dimensions	ASME B16.5
Pressure Testing	API 598
Mounting	ISO 5211
CE Approval	2014/68/EU Module H
Safety Integrity	SIL 3; IEC 61508:2010
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



ASME Class 150 Flanged Direct Mount



### DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/2"	6.50	2.84	0.787	1.84	2.82	15
3/4"	6.50	2.84	0.787	2.02	2.82	45
1"	6.50	2.84	0.787	2.31	2.82	85
1-1/2"	9.29	4.30	0.787	3.51	4.18	275
2"	9.29	4.30	0.787	3.80	4.18	450
2-1/2"	9.29	4.30	0.787	4.57	4.18	700
3"	13.39	6.14	0.787	5.22	5.59	1,100
4"	13.39	6.14	0.787	6.18	5.59	2,200
6"	15.35	6.81	1.181	8.28	5.98	5,150

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

SERIES D9 150# Flanged Direct Mount



SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/2"	D9-F1-050/3RDD-XX
3/4"	D9-F1-075/3RDD-XX
1"	D9-F1-100/3RDD-XX
1-1/2"	D9-F1-150/3RFD-XX
2"	D9-F1-200/3RFD-XX
2-1/2"	D9-F1-250/3RFD-XX
3"	D9-F1-300/3RJD-XX
4"	D9-F1-400/3RJD-XX
6"	D9-F1-600/3RKD-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/2"	D9-F1-050/3RDD-XX
3/4"	D9-F1-075/3RDD-XX
1"	D9-F1-100/3RDD-XX
1-1/2"	D9-F1-150/3RFD-XX
2"	D9-F1-200/3RFD-XX
2-1/2"	D9-F1-250/3RFD-XX
3"	D9-F1-300/3RJD-XX
4"	D9-F1-400/3RJD-XX
6"	D9-F1-600/3RKD-XX

OPTIONS		
SUFFIX 1	Accessories/Options	Model no.
X	No Specials	
A	TYPE 4 Solenoid 120VAC	TVCS-X411-4N-A120
B	TYPE 7 Solenoid 120VAC	TVC6-X411-7N-A120
C	Intrinsically Safe Solenoid	TVIS-X411-4N-D24
D	TYPE 4 Solenoid 24VDC	TVCS-X411-4N-D24
F	TYPE 7 Solenoid 24VDC	TVC6-X411-7N-D24
Q	TYPE 4 SST Solenoid 120VAC	TVSS-X411-4N-A120
M	TYPE 7 SST Solenoid 120VAC	TVSS-X411-7N-A120
L	TYPE 4 SST Solenoid 24VDC	TVSS-X411-4N-D24
N	TYPE 7 SST Solenoid 24VDC	TVSS-X411-7N-D24
P	Pneumatic Positioner	PPR-1200
E	Electro-Pneumatic Positioner	EPR-1000
SUFFIX 2	Accessories	Model no.
X	No Specials	
A	TYPE 4 Limit Switch	APL-210N
B	TYPE 7 Limit Switch	APL-510N
C	Intrinsically Safe Limit Switch	APL-218N
Q	TYPE 4 SST Limit Switch	APL-910N
M	TYPE 7 SST Limit Switch	APL-510S

SAMPLE PART #  
**D9C-F1-150/3RFD-XX**

Valve Series		Carbon Steel		End Connection		Seat Material		Valve Size		TRIAC Actuator Series		Actuator Size		Double Acting		SUFFIX 1: Solenoids		SUFFIX 2: Limit Switch
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See automated part number matrix on back cover for complete part number and options.

Other options available - call for details.  
Actuators are sized based on full differential pressure with clean water. Consult the Application Sizing Guide for assistance with sizing actuators.

# Pneumatic Spring Return

## Automated Ball Valve Package

Series D9  
ASME Class 150  
Flanged Ball Valve  
Direct Mount

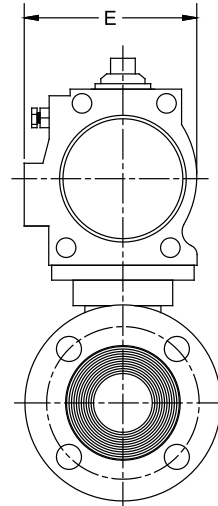
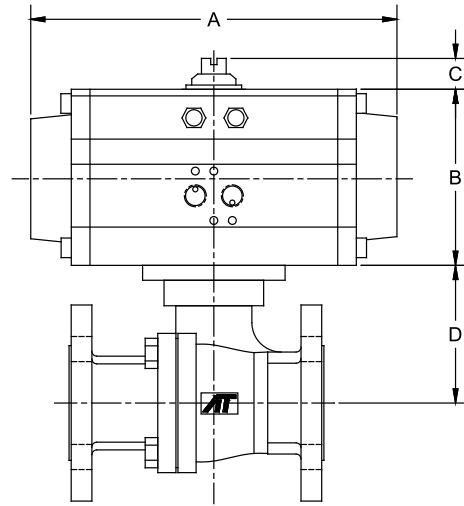
Sizes 1/2"-12"  
Available in 316SST or WCB  
ASME Class 150  
Full Port Design  
Superior Live Loaded Packing System  
Blowout Proof Stem w/ Dual Anti-Static Devices  
RTFE Seats Standard  
Pyramidal Stem Seal Design  
Monel Ball & Stem Available

### STANDARDS

Design	ASME B16.34 (fully conforms)
Face to Face	ASME B16.10
Flange Dimensions	ASME B16.5
Pressure Testing	API 598
Mounting	ISO 5211
CE Approval	2014/68/EU Module H
Safety Integrity	SIL 3; IEC 61508:2010
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



ASME Class 150 Flanged Direct Mount



### DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/2"	7.60	3.47	0.787	1.84	3.35	15
3/4"	7.60	3.47	0.787	2.02	3.35	45
1"	7.60	3.47	0.787	2.31	3.35	85
1-1/2"	11.02	4.61	0.787	3.51	4.27	275
2"	11.02	4.61	0.787	3.80	4.27	450
2-1/2"	11.50	5.28	0.787	4.57	5.78	700
3"	15.35	6.81	1.181	5.22	5.98	1,100
4"	15.35	6.81	1.181	6.18	5.98	2,200
6"	22.36	9.06	1.181	8.28	8.11	5,150

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY



SERIES D9 150# Flanged Direct Mount

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/2"	D9-F1-050/3RES-XX
3/4"	D9-F1-075/3RES-XX
1"	D9-F1-100/3RES-XX
1-1/2"	D9-F1-150/3RGS-XX
2"	D9-F1-200/3RGS-XX
2-1/2"	D9-F1-250/3RHS-XX
3"	D9-F1-300/3RKS-XX
4"	D9-F1-400/3RKS-XX
6"	D9-F1-600/3RPS-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/2"	D9-F1-050/3RE4-XX
3/4"	D9-F1-075/3RE4-XX
1"	D9-F1-100/3RE4-XX
1-1/2"	D9-F1-150/3RG4-XX
2"	D9-F1-200/3RG4-XX
2-1/2"	D9-F1-250/3RJ4-XX
3"	D9-F1-300/3RK4-XX
4"	D9-F1-400/3RL4-XX
6"	D9-F1-600/3RR4-XX

OPTIONS		
SUFFIX 1	Accessories/Options	Model no.
X	No Specials	
A	TYPE 4 Solenoid 120VAC	TVCS-X411-4N-A120
B	TYPE 7 Solenoid 120VAC	TVC6-X411-7N-A120
C	Intrinsically Safe Solenoid	TVIS-X411-4N-D24
D	TYPE 4 Solenoid 24VDC	TVCS-X411-4N-D24
F	TYPE 7 Solenoid 24VDC	TVC6-X411-7N-D24
Q	TYPE 4 SST Solenoid 120VAC	TVSS-X411-4N-A120
M	TYPE 7 SST Solenoid 120VAC	TVSS-X411-7N-A120
L	TYPE 4 SST Solenoid 24VDC	TVSS-X411-4N-D24
N	TYPE 7 SST Solenoid 24VDC	TVSS-X411-7N-D24
P	Pneumatic Positioner	PPR-1200
E	Electro-Pneumatic Positioner	EPR-1000
SUFFIX 2	Accessories	Model no.
X	No Specials	
A	TYPE 4 Limit Switch	APL-210N
B	TYPE 7 Limit Switch	APL-510N
C	Intrinsically Safe Limit Switch	APL-218N
Q	TYPE 4 SST Limit Switch	APL-910N
M	TYPE 7 SST Limit Switch	APL-510S

Other options available - call for details.  
Actuators are sized based on full differential pressure with clean water. Consult the Application Sizing Guide for assistance with sizing actuators.

SAMPLE PART #  
**D9C-F1-150/3RGS-XX**

Valve Series | Carbon Steel | End Connection | Seat Material | Valve Size | TRIAC Actuator Series | Actuator Size | Spring Return  
 SUFFIX 1: Solenoids  
 SUFFIX 2: Limit Switch

See automated part number matrix on back cover for complete part number and options.

# Electric

## Automated Ball Valve Package

Series D9  
ASME Class 150  
Flanged Ball Valve  
Direct Mount

Sizes 1/2" - 12"  
Available in 316SST or WCB  
ASME Class 150  
Full Port Design  
Superior Live Loaded Packing System  
Blowout Proof Stem w/ Dual Anti-Static Devices  
RTFE Seats Standard  
Pyramidal Stem Seal Design  
Monel Ball & Stem Available

### STANDARDS

Design	ASME B16.34 (fully conforms)
Face to Face	ASME B16.10
Flange Dimensions	ASME B16.5
Pressure Testing	API 598
Mounting	ISO 5211
CE Approval	2014/68/EU Module H
Safety Integrity	SIL 3; IEC 61508:2010
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015

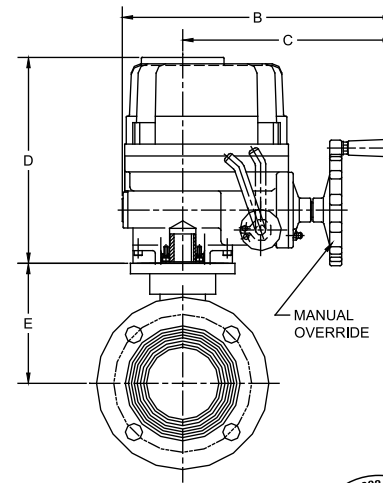
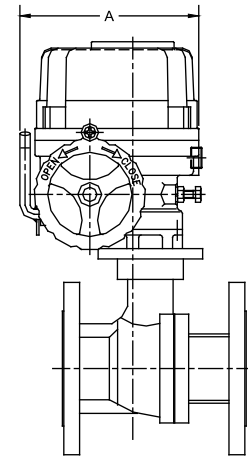


ASME Class 150 Flanged Direct Mount

### DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/2"	4.98	4.08	N/A	5.24	1.84	15
3/4"	4.98	4.08	N/A	5.24	2.02	45
1"	4.98	4.08	N/A	5.24	2.31	85
1-1/2"	4.98	4.08	N/A	5.24	3.51	275
2"	4.98	4.08	N/A	5.24	3.80	450
2-1/2"	9.02	13.31	10.43	10.55	4.57	700
3"	9.02	13.31	10.43	10.55	5.22	1,100
4"	10.20	14.49	11.26	11.42	6.18	2,200
6"	10.20	14.49	11.26	11.97	8.28	5,150

(D) DIMENSION IS FROM CENTERLINE TO END OF HANDWHEEL ON 2-1/2" - 6" OR MODULATING ACTUATORS 1/2" - 2".  
FOR SPECIALS, CONSULT FACTORY



SERIES D9 150# Flanged Direct Mount

ON-OFF	
SIZE	MODEL
1/2"	D9-F1-050/WEA1-XX
3/4"	D9-F1-075/WEA1-XX
1"	D9-F1-100/WEA1-XX
1-1/2"	D9-F1-150/WEA1-XX
2"	D9-F1-200/WEA1-XX
2-1/2"	D9-F1-250/WEC1-XX
3"	D9-F1-300/WEC1-XX
4"	D9-F1-400/WEE1-XX
6"	D9-F1-600/WEF1-XX

MODULATING	
SIZE	MODEL
1/2"	D9-F1-050/WEA2-XX
3/4"	D9-F1-075/WEA2-XX
1"	D9-F1-100/WEA2-XX
1-1/2"	D9-F1-150/WEA2-XX
2"	D9-F1-200/WEA2-XX
2-1/2"	D9-F1-250/WEC2-XX
3"	D9-F1-300/WEC2-XX
4"	D9-F1-400/WEE2-XX
6"	D9-F1-600/WEF2-XX

### OPTIONS

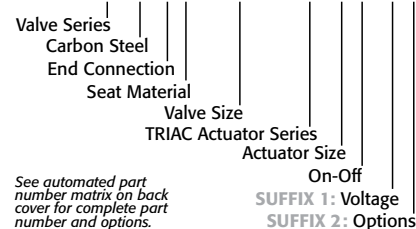
Suffix 1	Voltage / Accessory	Model No.
X	No Specials	
R	24VDC Electric Actuator	
S	220VAC Electric Actuator	
T	Other Voltage Electric Actuator	
W	12VDC Electric Actuator	
Y	24VAC Electric Actuator	

\* No voltage specified on electric assemblies denotes 120VAC

Suffix 2	Accessories
X	No Specials
1	HS1 High Speed Electric
2	HS2 High Speed Electric

Other options available - call for details  
Actuators are sized based on full differential pressure with clean water. Consult the Application Sizing Guide for assistance with sizing actuators.

### SAMPLE PART # D9C-F1-150/WEA1-XX



# Series D9 HOW TO ORDER: Manual Valves

1	Prefix
NS	NSF 61 & 372 Certified Series
2	Valve Series
D9	Direct Mount Flanged
3	Body/Ball/Stem Material
Blank	Valve Series Standard (316SST)
A	Alloy 20 Body, Ball, & Stem
C	Carbon Steel Body
L	Low Carbon 316L Stainless Steel
H	Carbon Body / Hastelloy Ball & Stem
Q	Carbon Body/Monel Ball & Stem
R	316 SST Body/Monel Ball & Stem
4	End Connection
F1	150# Flanged Ends
5	Valve Size
0050	1/2" 0300 3"
0075	3/4" 0400 4"
0100	1" 0600 6"
0150	1-1/2" 0800 8"
0200	2" 1000 10"
0250	2-1/2" 1200 12"

6	Seat, Lining & Trim Materials
X	Reinforced TFE Seats (RTFE)
P	Virgin TFE Seats (PTFE)
U	UHMWPE Seats
S	50/50 STFE Seats
C	25% CS Powder/75% TFE Seats (CTFE)
T	TFM™-1600 Seats
A	50% SS Powder / 50% TFM™-1600 (STFM) Seats
M	MG1241 Seats
Z	PEEK Seats
7	Special Designation
X	No Specials/Series Standard
G	Gear Operator
H	Gear Operator with Lockout Plate
O	Oval Handle (available in some)
S	Spring Return (Direct Mount Only)
4	4" Lockable Stem Extension
8	Additional Specials
X	No Specials, Series Standard
O	Oxygen Cleaned
V	Vented Ball
E	Bonnet Extension Lockable Handle
D	Degreased & Bagged
A	Vented Ball, Degreased & Bagged
B	Vented Ball, Oxygen Cleaned

9	Special Designation
Blank	No Designation, Valve Series Standard
X	Multiple Option Designation
A	17-4 PH® Stem
10	O-Ring
X	Multiple Option Designation
2	Markez® Z1028
4	Karlez 4079
5	Chemraz 505
6	Karlez 6375
7	Perlast® G75M
9	Chemraz® 564
B	Low Temp Buna
E	EPDM
11	Additional Specials
X	Multiple Option Designation
B	B7M Bolting
E	CE/PED Certified
M	Marine Epoxy Coating

**HOW TO ORDER MANUAL VALVES**

1 2 3 - 4 - 5 - 6 7 8 - 9 - 10 11  
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**D9 C - F1 - 0150 - X X X**

17-4 PH® is a registered trademark of AK Steel Corporation. Markez® is a registered trademark of Marco Rubber & Plastic Products Inc.  
 Chemraz® is a registered trademark of Greene, Tweed & Co. Perlast® is a registered trademark of Precision Polymer Engineering Limited.  
 TFM™ is a trademark of Dyneon™, a 3M Company.

## HOW TO ORDER: Automated Valves

2	Valve Series
D9	Direct Mount Flanged
3	Body/Ball/Stem Material
Blank	Valve Series Standard (316SST)
A	Alloy 20 Body, Ball, & Stem
C	Carbon Steel Body
L	Low Carbon 316L Stainless Steel
H	Carbon Body / Hastelloy Ball & Stem
Q	Carbon Body/Monel Ball & Stem
R	316 SST Body/Monel Ball & Stem
4	End Connection
F	150# Flanged Ends
5	Seat, Lining & Trim Materials
1	Valve Series Standard (RTFE) Seats
P	Virgin TFE Seats (PTFE)
U	UHMWPE Seats
S	50/50 STFE Seats
C	25% CS Powder/75% TFE Seats (CTFE)
T	TFM™-1600 Seats
A	50% SS Powder / 50% TFM™-1600 (STFM) Seats
M	MG1241 Seats
Z	PEEK Seats
6	Valve Size
050	1/2" 200 2" 600 6"
075	3/4" 250 2-1/2" 800 8"
100	1" 300 3" AAA 10"
150	1-1/2" 400 4" BBB 12"

7 (A) Pneumatic Actuator - 3R, 3N, 3P Series
3RC 3R10 3RM 3R850
3RD 3R20 3RN 3R1000
3RE 3R40 3RP 3R1200
3RF 3R80 3RR 3R1750
3RG 3R130 3RS 3R2400
3RH 3R200 3RT 3R2500
3RJ 3R300 3RU 3R2700
3RK 3R500 3RV 3R3300
3RL 3R700 3RW 3R3500

3R=Standard, 3N=Electroless Nickel Plating, 3P=Teflon™ (PTFE) Coating

7 (A) Pneumatic Actuator - S2 Series
S2C S2-052 S2G S2-125
S2D S2-063 S2H S2-140
S2E S2-083 S2J S2-160
S2F S2-105 S2K S2-210

7 (B) Pneumatic Action
D Double Acting (DA)
S Spring CW (5 springs)*
O Spring CCW (5 springs)*
4 Spring CW (4 springs)**
F Spring CCW (4 springs)**

\*2500 & 3500 80 psig spring  
 \*\*2500 & 3500 60 psig spring

7 Actuator - Electric (On-Off)
WEX1 WE-350 WEG1 WE-5200
WEA1 WE-500 WEH1 WE-6900
WEB1 WE-690 WEJ1 WE-10500
WEC1 WE-1350 WEK1 WE-17500
WED1 WE-1700 WEL1 WE-25900
WEE1 WE-2640 WEM1 WE-53000
WEF1 WE-4400 WEN1 WE-80000

7 Actuator - Electric (Modulating)
WEA2 WEM-500 WEH2 WEM-6900
WEB2 WEM-690 WEJ2 WEM-10500
WEC2 WEM-1350 WEK2 WEM-17500
WED2 WEM-1700 WEL2 WEM-25900
WEE2 WEM-2640 WEM2 WEM-53000
WEF2 WEM-4400 WEN2 WEM-80000
WEG2 WEM-5200

**AUTOMATED VALVE**  
 SAMPLE PART #  
**D9C-F1-150/3R3D-XX-**

(2) Valve Series | (3) Body/Ball/Stem Material | (4) End Connection | (5) Seat/Trim Material | (6) Valve Size | (7A) Actuator Size | (7B) Double Acting | (8) Accessory | (9) Accessory | (10) Special Designation

(7A) TRIAC Actuator Series

8 Accessories/Options	Model no.
X	No Specials
A	TYPE 4 Solenoid 120VAC TVCS-X411-4N-A120
B	TYPE 7 Solenoid 120VAC TVCS-X411-7N-A120
C	Intrinsically Safe Solenoid TVSS-X411-4N-D24
D	TYPE 4 Solenoid 24VDC TVCS-X411-4N-D24
F	TYPE 7 Solenoid 24VDC TVCS-X411-7N-D24
Q	TYPE 4 SST Solenoid 120VAC TVSS-X411-4N-A120
M	TYPE 7 SST Solenoid 120VAC TVSS-X411-7N-A120
L	TYPE 4 SST Solenoid 24VDC TVSS-X411-4N-D24
N	TYPE 7 SST Solenoid 24VDC TVSS-X411-7N-D24
P	Pneumatic Positioner PPR-1200
E	Electro-Pneumatic Positioner EPR-1000
R	24VDC Electric Actuator
S	220VAC Electric Actuator
T	Other Voltage Electric Actuator
W	12VDC Electric Actuator
Y	24VAC Electric Actuator
* No voltage specified on electric assemblies denotes 120VAC	

9 Accessories	Model no.
X	No Specials
A	TYPE 4 Limit Switch APL-210N
B	TYPE 7 Limit Switch APL-510N
C	Intrinsically Safe Limit Switch APL-218N
Q	TYPE 4 SST Limit Switch APL-910N
M	TYPE 7 SST Limit Switch APL-510S
1	HS1 High Speed Electric
2	HS2 High Speed Electric
10 Special Designation	
Blank	No Designation, Valve Series Standard
X	Multiple Option Designation
A	17-4 PH® Stem
E	CE/PED Certified
F	Viton® Seal for Pneumatic Actuators (0°F to 300°F)



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