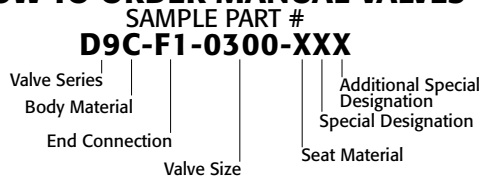


RTFE seats are standard, but various options are available for seat materials. The 50/50 STFE seat option is excellent for services that call for higher temperatures and more difficult applications, including steam. Call us for details.

### 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

ANSI 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	ANSI/ASME B16.10
Flange Dimensions	ANSI/ASME B16.5
Pipeline Valves	API 6D
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25
Safety Integrity	IEC 61508:2010; SIL 3
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



### TABLE OF CONTENTS:

- 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

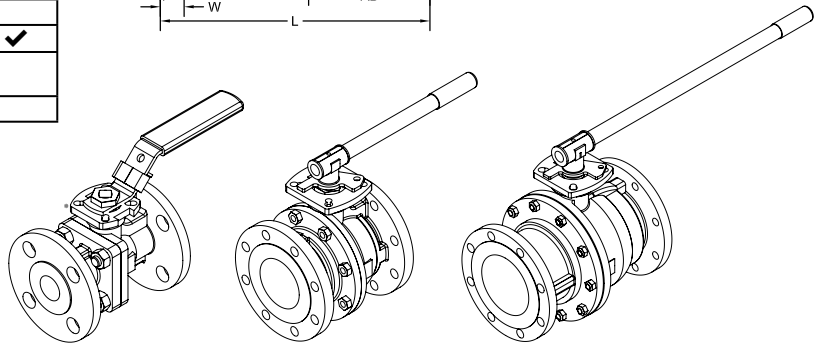
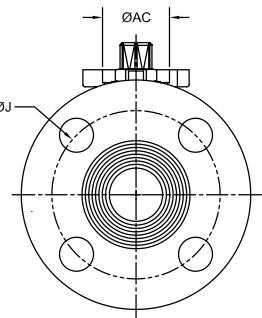
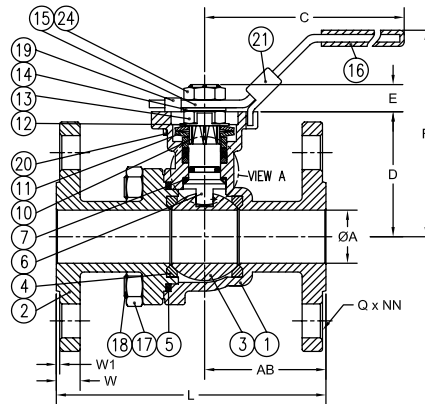
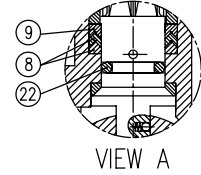
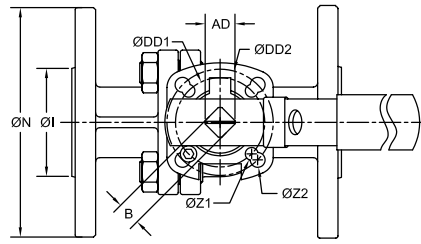
## High Performance, Full Port Split Body Ball Valve Series D9 (ANSI Class 150)

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

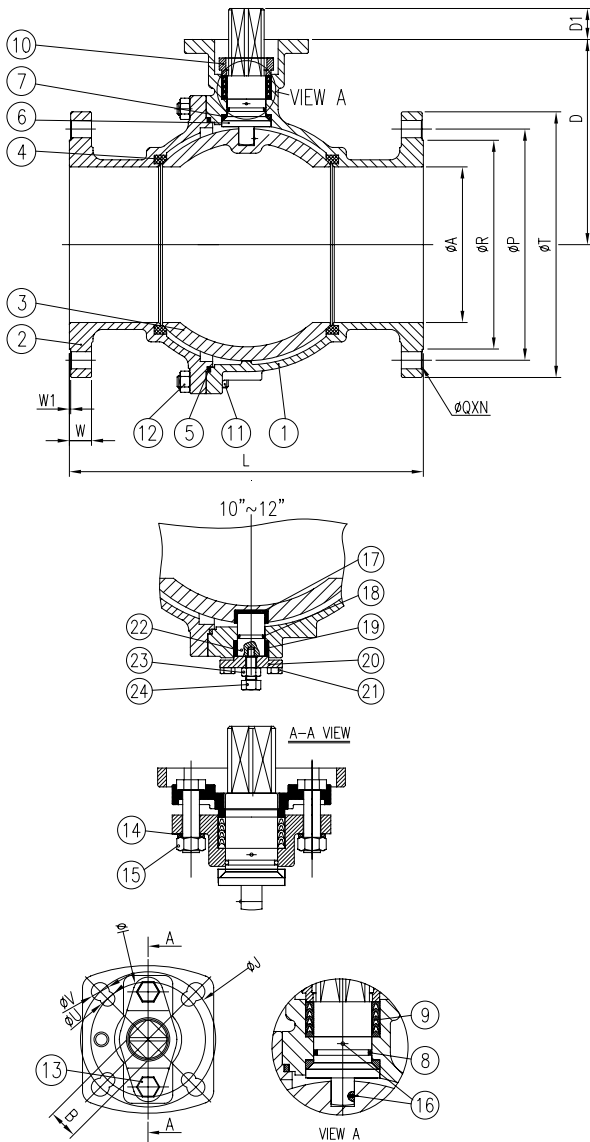
### DIMENSIONS (IN)

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 (ANSI Class 150)

# Series D9

8" to 12"



## MATERIAL LIST

NO.	PART NAME	QTY	MATERIAL	
			STAINLESS STEEL	CARBON STEEL
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

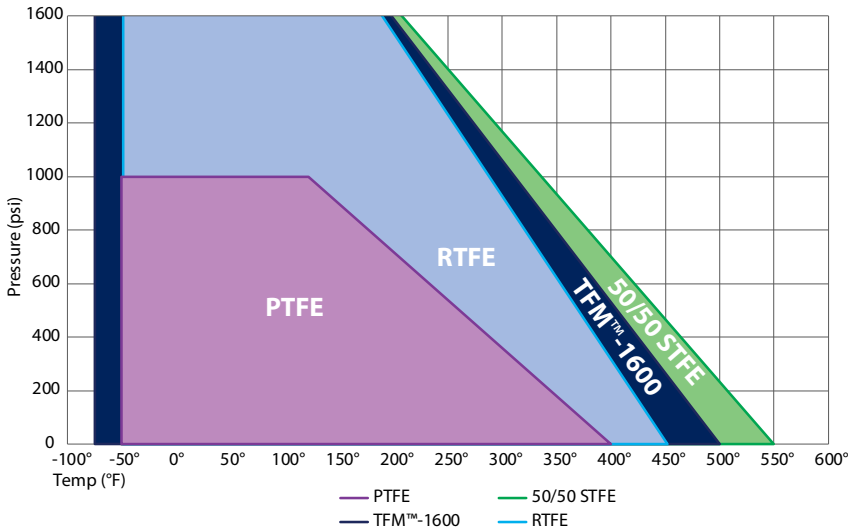
## DIMENSIONS (IN)

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

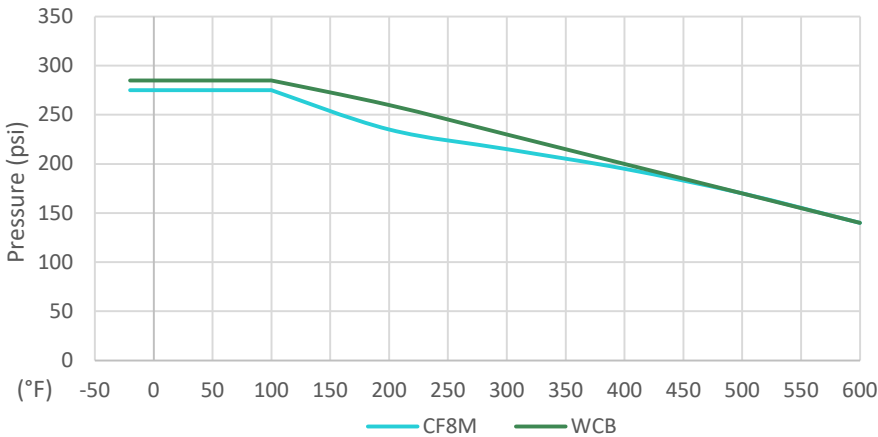
## High Performance, Full Port Split Body Ball Valve Series D9 (ANSI Class 150)

**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
50°	285	275
75°	285	275
90°	285	275
99°	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"	110
3/4"	140
1"	175
1-1/2"	400
2"	450
2-1/2"	620
3"	1,000
4"	1,600
6"	2,700
8"	7,256
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.

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**  
**ANSI Class 150**  
**Flanged Ball Valve**  
**Direct Mount**

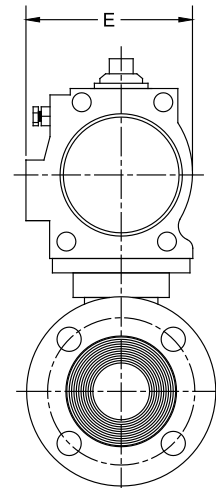
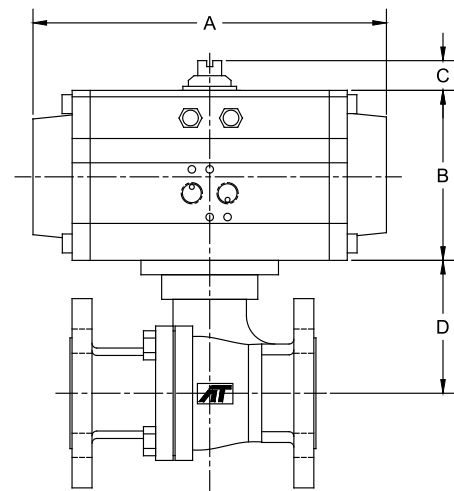
Sizes 1/2" - 6" stock  
 (Call factory for 8", 10" & 12")  
 Available in 316SST or WCB  
 ANSI Class 150  
 Full Port Design  
 Superior Live Loaded  
 Packing System  
 Blowout Proof Stem w/ Dual  
 Anti-Static Devices  
 RTFE Seats Standard  
 Pyramidal Stem Seal Design  
 Monel Ball & Stem Available

### STANDARDS

Design	ASME B16.34 (fully conforms)
Face to Face	ANSI/ASME B16.10
Flange Dimensions	ANSI/ASME B16.5
Pipeline Valves	API 6D
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25
Safety Integrity	IEC 61508:2010; SIL 3
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



**150# Flanged Direct Mount**



### DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/2"	5.98	2.76	0.79	1.84	2.58	15
3/4"	5.98	2.76	0.79	2.02	2.58	45
1"	7.95	3.43	0.79	2.31	3.29	85
1-1/2"	9.29	4.49	0.79	3.51	4.41	275
2"	9.29	4.49	0.79	3.80	4.41	450
2-1/2"	10.87	4.88	0.79	4.57	4.69	700
3"	13.90	6.18	0.79	5.22	5.91	1,100
4"	13.90	6.18	0.79	6.18	5.91	2,200
6"	20.95	8.31	1.18	8.28	6.89	5,150

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY



**SERIES D9 150# Flanged Direct Mount**

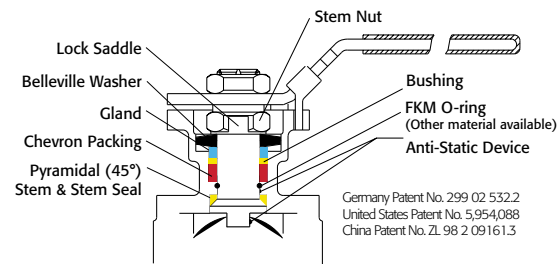
SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/2"	D9-F1-050/TR1D-XX
3/4"	D9-F1-075/TR1D-XX
1"	D9-F1-100/2R2D-XX
1-1/2"	D9-F1-150/2R3D-XX
2"	D9-F1-200/2R3D-XX
2-1/2"	D9-F1-250/2R4D-XX
3"	D9-F1-300/2R6D-XX
4"	D9-F1-400/2R6D-XX
6"	D9-F1-600/2R8D-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/2"	D9-F1-050/TR1D-XX
3/4"	D9-F1-075/2R2D-XX
1"	D9-F1-100/2R2D-XX
1-1/2"	D9-F1-150/2R3D-XX
2"	D9-F1-200/2R3D-XX
2-1/2"	D9-F1-250/2R5D-XX
3"	D9-F1-300/2R6D-XX
4"	D9-F1-400/2R6D-XX
6"	D9-F1-600/2R9D-XX

### OPTIONS

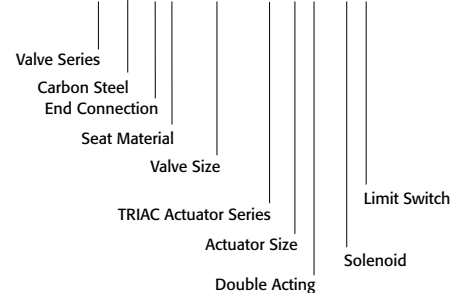
DESCRIPTION	PART NO. SUFFIX	DESCRIPTION	PART NO. SUFFIX
NEMA 4 Solenoid	(A)	NEMA 4 Limit Switch (2) spdt	(A)
NEMA 7 Solenoid	(B)	NEMA 7 Limit Switch (2) spdt	(B)
Intrinsically Safe Solenoid	(C)	Intrinsically Safe Limit Switch	(C)

Other options available - call for details  
 Actuators are sized based on clean/clear fluid.



Germany Patent No. 299 02 532.2  
 United States Patent No. 5,954,088  
 China Patent No. ZL 98 2 09161.3

SAMPLE PART #  
**D9C-F1-150/2R3D-XX**



See valve part number matrix for complete part number and options.



# Pneumatic Spring Return

## Automated Ball Valve Package

### Series D9 ANSI Class 150 Flanged Ball Valve Direct Mount

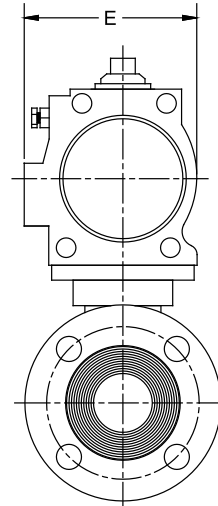
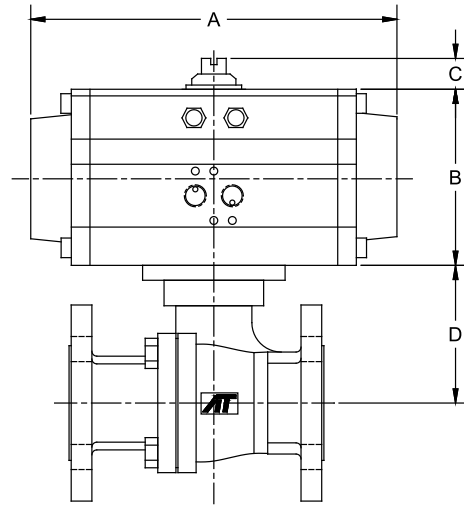
- Sizes 1/2"-6" stock  
(Call factory for 8", 10" & 12")
- Available in 316SST or WCB
- ANSI Class 150
- Full Port Design
- Superior Live Loaded Packing System
- Blowout Proof Stem w/ Dual Anti-Static Devices
- RTFE Seats Standard
- Pyramidal Stem Seal Design
- Monel Ball & Stem Available

#### STANDARDS

Design	ASME B16.34 (fully conforms)
Face to Face	ANSI/ASME B16.10
Flange Dimensions	ANSI/ASME B16.5
Pipeline Valves	API 6D
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25
Safety Integrity	IEC 61508:2010; SIL 3
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



150# Flanged Direct Mount



#### DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/2"	7.95	3.43	0.79	1.84	3.29	15
3/4"	9.29	4.49	0.79	2.02	4.41	45
1"	9.29	4.49	0.79	2.31	4.41	85
1-1/2"	10.87	4.88	0.79	3.51	4.69	275
2"	10.87	4.88	0.79	3.8	4.69	450
2-1/2"	13.9	6.18	0.79	4.57	5.91	700
3"	13.9	6.18	0.79	5.22	5.91	1,100
4"	15.16	6.93	1.18	6.18	6.5	2,200
6"	24.37	10.12	1.18	8.28	8.31	5,150

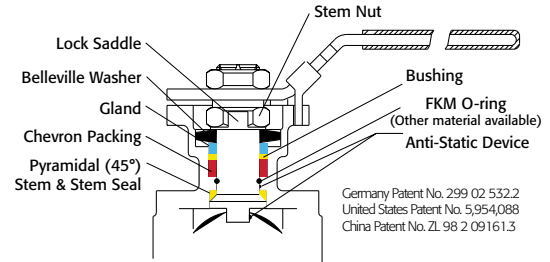
DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY



SERIES D9 150# Flanged Direct Mount

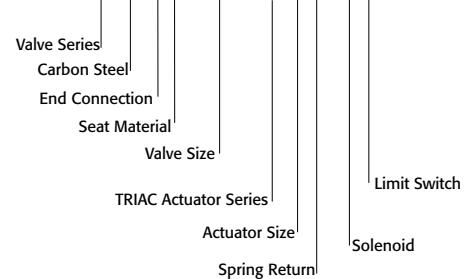
SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/2"	D9-F1-050/2R2S-XX
3/4"	D9-F1-075/2R3S-XX
1"	D9-F1-100/2R3S-XX
1-1/2"	D9-F1-150/2R4S-XX
2"	D9-F1-200/2R4S-XX
2-1/2"	D9-F1-250/2R6S-XX
3"	D9-F1-300/2R6S-XX
4"	D9-F1-400/2R7S-XX
6"	D9-F1-600/2R0S-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/2"	D9-F1-050/2R3S-XX
3/4"	D9-F1-075/2R3S-XX
1"	D9-F1-100/2R3S-XX
1-1/2"	D9-F1-150/2R4S-XX
2"	D9-F1-200/2R5S-XX
2-1/2"	D9-F1-250/2R6S-XX
3"	D9-F1-300/2R6S-XX
4"	D9-F1-400/2R7S-XX
6"	D9-F1-600/2R0S-XX



Germany Patent No. 299 02 532.2  
United States Patent No. 5,954,088  
China Patent No. ZL 98 2 09161.3

#### SAMPLE PART # D9C-F1-150/2R3S-XX



See valve part number matrix for complete part number and options.

#### OPTIONS

DESCRIPTION	PART NO. SUFFIX	DESCRIPTION	PART NO. SUFFIX
NEMA 4 Solenoid	(A)	NEMA 4 Limit Switch (2) spdt	(A)
NEMA 7 Solenoid	(B)	NEMA 7 Limit Switch (2) spdt	(B)
Intrinsically Safe Solenoid	(C)	Intrinsically Safe Limit Switch	(C)

Other options available - call for details  
Actuators are sized based on clean/clear fluid.

# Electric

## Automated Ball Valve Package

Series D9  
ANSI Class 150  
Flanged Ball Valve  
Direct Mount

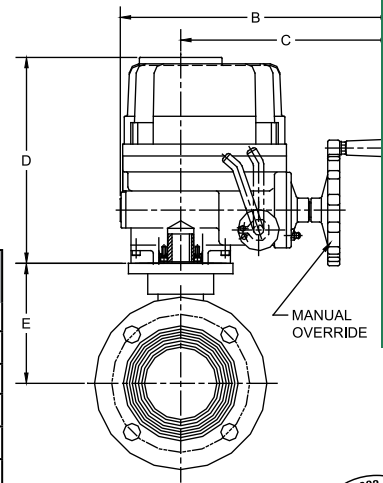
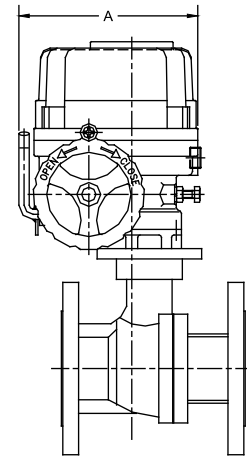
Sizes 1/2" - 6" stock  
(Call factory for 8", 10" & 12")  
Available in 316SST or WCB  
ANSI Class 150  
Full Port Design  
Superior Live Loaded Packing System  
Blowout Proof Stem w/ Dual Anti-Static Devices  
RTFE Seats Standard  
Pyramidal Stem Seal Design  
Monel Ball & Stem Available

### STANDARDS

Design	ASME B16.34 (fully conforms)
Face to Face	ANSI/ASME B16.10
Flange Dimensions	ANSI/ASME B16.5
Pipeline Valves	API 6D
Pressure Testing	API 598
Mounting	ISO 5211
Marking System for Valves	MSS SP-25
Safety Integrity	IEC 61508:2010; SIL 3
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015



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

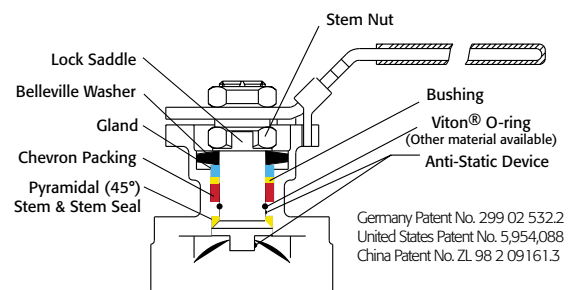
MODULATING	
SIZE	MODEL
1/2"	D9-F1-050/WEA2-XX
3/4"	D9-F1-075/WEA2-XX
1"	D9-F1-100/WEA2-XX
1-1/2"	D9-F1-150/WEA2-XX
2"	D9-F1-200/WEA2-XX
2-1/2"	D9-F1-250/WEC2-XX
3"	D9-F1-300/WEC2-XX
4"	D9-F1-400/WEE2-XX
6"	D9-F1-600/WEF2-XX

### PTIONS

DESCRIPTION
24 VAC/24 VDC/220VAC
Feedback potentiometer

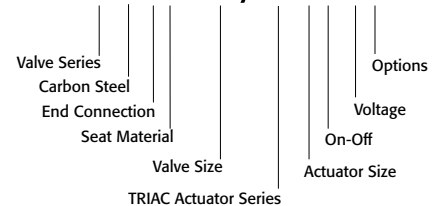
NOTE: Heater and thermostat standard  
(2) auxiliary switches standard

Other options available - call for details  
Actuators are sized based on clean/clear fluid.



SAMPLE PART #

**D9C-F1-150/WEA1-XX**



See valve part number matrix for complete part number and options.

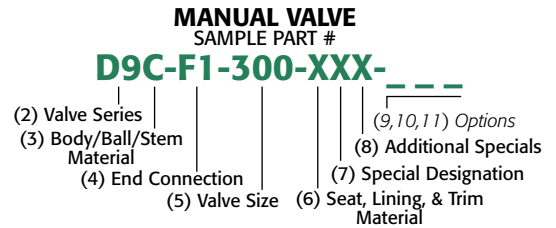
# Series D9 HOW TO ORDER: Manual Valves

1	Prefix
F	Firesafe Tested (see valve series for details & testing)
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 (PTFE)
U	UHMWPE Seats
S	50/50 STFE Seats
C	25% CS Powder/75% TFE Seats (CTFE)
T	TFM™-1600
A	50% SS Powder / 50% TFM™-1600 (STFM)
M	MG1241
Z	PEEK
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
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
M	Marine Epoxy Coating

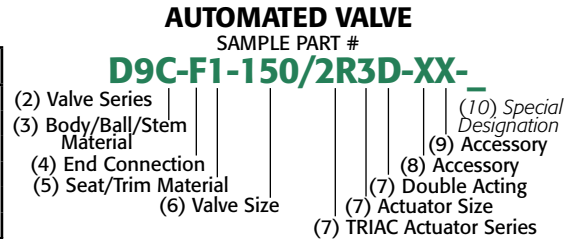
17-4 PH® is a registered trademark of AK Steel Corporation. Markez® is a registered trademark of Marco Rubber & Plastic Products Inc.  
 Chemraz® is a registered trademark of Greene, Tweed & Co. Perlast® is a registered trademark of Precision Polymer Engineering Limited.  
 TFM™ is a trademark of Dyneon™, 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)
P	Virgin TFE (PTFE)
U	UHMWPE Seats
S	50/50 STFE Seats
C	25% CS Powder/75% TFE Seats (CTFE)
T	TFM™-1600
A	50% SS Poder / 50% TFM™-1600 (STFM)
M	MG1241
Z	PEEK
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	Actuator - Pneumatic (DA)
TRYD	TR10DA 2R7D 2R500DA
TR1D	TR20DA 2R8D 2R850DA
2R2D	2R40DA 2R9D 2R1200DA
2R3D	2R80DA 2R0D 2R1750DA
2R4D	2R130DA 2RAD 2R2500DA
2R5D	2R200DA 2RBD 2R3500DA
2R6D	2R300DA

7	Actuator - Pneumatic (SR)
TR1S	TR20SR 2R7S 2R500SR
2R2S	2R40SR 2R8S 2R850SR
2R3S	2R80SR 2R9S 2R1200SR
2R4S	2R130SR 2R0S 2R1750SR
2R5S	2R200SR 2RAS 2R2500SR
2R6S	2R300SR 2RBS 2R3500SR
7	Actuator - Pneumatic Stainless (DA)
S21D	S2-052DA S25D S2-125DA
S22D	S2-063DA S26D S2-140DA
S23D	S2-083DA S27D S2-160DA
S24D	S2-105DA S28D S2-210DA
7	Actuator - Pneumatic Stainless (SR)
S21S	S2-052SR S25S S2-125SR
S22S	S2-063SR S26S S2-140SR
S23S	S2-083SR S27S S2-160SR
S24S	S2-105SR S28S S2-210SR
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



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	TVIS-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/APL-310N
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	

