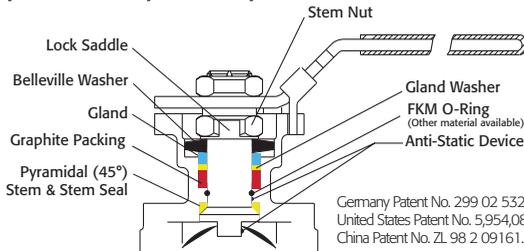


**API 607
CERTIFIED**

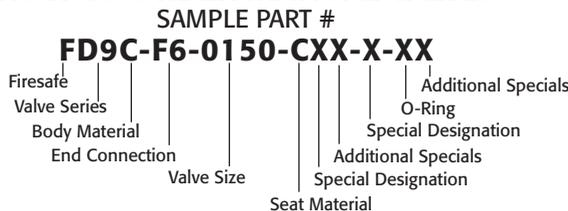


Triac FD9 Series Flanged Ball Valves feature a direct mount automation pad. The high quality investment castings feature a fully machined bore. The superior live-loaded packing system is accomplished with Belleville washers, "V" ring packing and a unique primary pyramidal stem seal. This advanced sealing system provides protection against stem leaks experienced by ordinary ball valves.



CTFE 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

FD9F6-3R-20250509
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A-T Controls, Inc.

Series FD9-F6

FIRESAFE

600# Direct Mount Split Body Flanged Ball Valve

Sizes 1/2" – 2"

Available in 316SS or WCB

ASME Class 600

Full Port Design

Superior Live Loaded Packing System

ISO 5211 Actuator Mounting Pad

Blowout Proof Stem w/ Dual Anti-Static Devices

CTFE Seats Standard

Pyramidal Stem Seal Design

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
Fire Testing	API 607-7th Edition
Sulfide Stress Protection	NACE MR0175
Mounting	ISO 5211
CE Approval (optional)	2014/68/EU Module H
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015
Fugitive Emission	ISO 15848-1

TABLE OF CONTENTS:

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- Page 3 - Technical Data
- Page 4 - Double Acting
- Page 5 - Spring Return
- Page 6 - Electric
- Page 7 - How to Order - Manual
- Page 8 - How to Order - Automated

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SERIES FD9-F6 600# Direct Mount Split Body Flanged Ball Valve

Firesafe

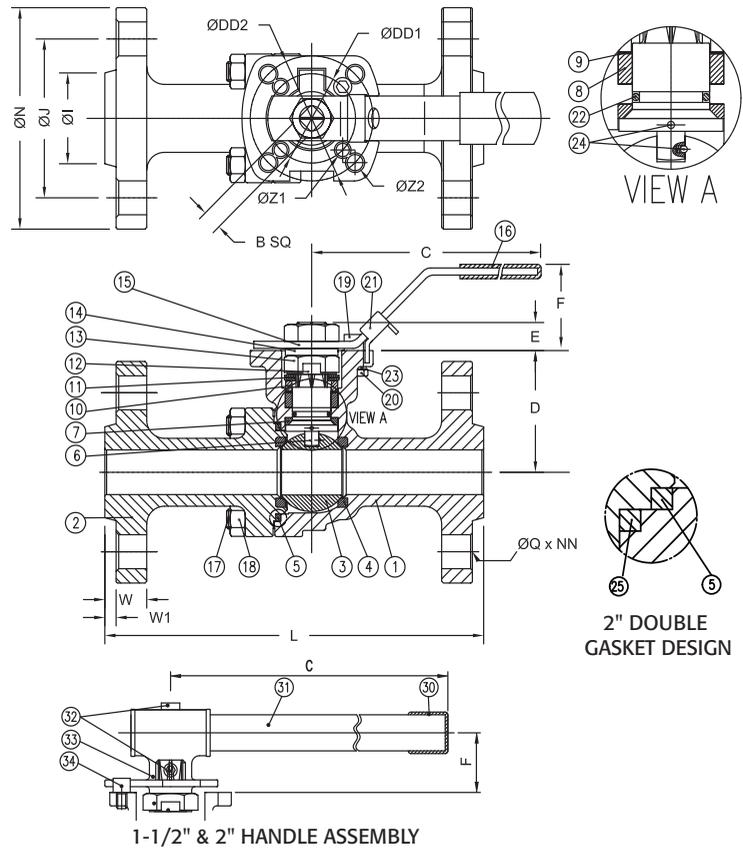
Series FD9-F6

High Performance, Full Port 600# Split Body Flanged Ball Valve Series FD9-F6 (ASME Class 600)

API 607
CERTIFIED FIRESAFE

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	CTFE	CTFE	✓
5	JOINT GASKET	1	\$	\$	✓
6	STEM	1	ASTM A276 316SST	ASTM A276 316SST	
7	STEM SEAL	1	TFM™-1600	TFM™-1600	✓
8	GLAND PACKING	1	GRAPHITE	GRAPHITE	✓
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	2	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 BOLT	*	ASTM A193 GRADE B8M	ASTM A193 GRADE B7M	
18	BODY BOLT NUT	*	ASTM A194 GRADE 8M	ASTM A194 GRADE 2HM	
19	STOP BOLT	1	AISI 304	AISI 304	
20	STOP NUT	1	AISI 304	AISI 304	
21	HANDLE LOCK	1	AISI 304	AISI 304	
22	O-RING	1	FKM	FKM	✓
23	STOP BOLT WASHER	1	AISI 304	AISI 304	
24	ANTI-STATIC DEVICE	2	AISI 316	AISI 316	
25	JOINT GASKET	1	\$\$	\$\$	✓
30	HANDLE SLEEVE	1	VINYL	VINYL	
31	HANDLE BAR	1	AISI 304	AISI 304	
32	HANDLE BOLT	2	AISI 304	AISI 304	
33	HANDLE HUB	1	AISI 304	AISI 304	
34	STOP BOLT	1	AISI 304	AISI 304	



*FOR 1/2"-1-1/2" : 4 PCS. OF BOLTS AND NUTS

*FOR 2" : 8 PCS. OF BOLTS AND BOLT NUTS

\$ FOR 1/2" - 1-1/2" : GRAPHITE

\$ FOR 2" - PTFE: TFM™-1600 GRAPHITE

\$\$ ONLY PRESENT IN 2" DESIGN

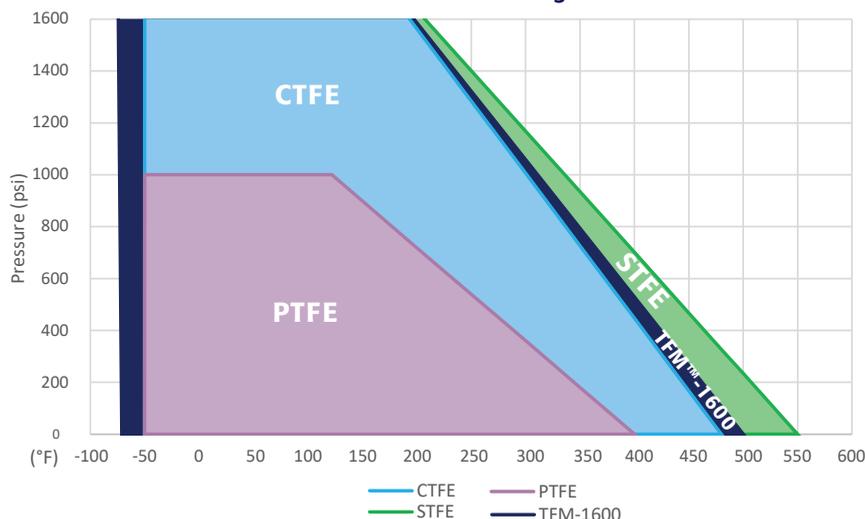
DIMENSIONS (IN)

SIZE	A	B	C	D	E	F	I	J	L	N	Q	W	W1	Z1	Z2	DD1	DD2	NN	LBS	ISO
1/2"	0.59	0.433	8.39	1.92	0.39	1.89	1.38	2.63	6.50	3.75	0.63	0.81	0.25	0.26	0.28	1.654	1.969	4	6.5	F04/F05
3/4"	0.79	0.433	8.39	2.5	0.41	1.89	1.69	3.25	7.50	4.63	0.75	0.87	0.25	0.26	0.28	1.654	1.969	4	10.5	F04/F05
1"	0.98	0.551	10.37	2.68	0.51	1.93	2.00	3.5	8.50	4.88	0.75	0.94	0.25	0.30	0.35	1.969	2.756	4	14	F05/F07
1-1/2"	1.50	0.748	14.57	3.51	0.75	1.74	2.88	4.5	9.50	6.13	0.88	1.13	0.25	0.39	0.47	2.756	4.016	4	27	F07/F10
2"	1.97	0.748	14.57	4.33	0.75	1.74	3.63	5.00	11.50	6.50	0.75	1.25	0.25	0.39	0.47	2.756	4.016	8	39	F07/F10

High Performance, Full Port 600# Split Body Flanged Ball Valve Series FD9-F6 (ASME Class 600)

Series FD9-F6

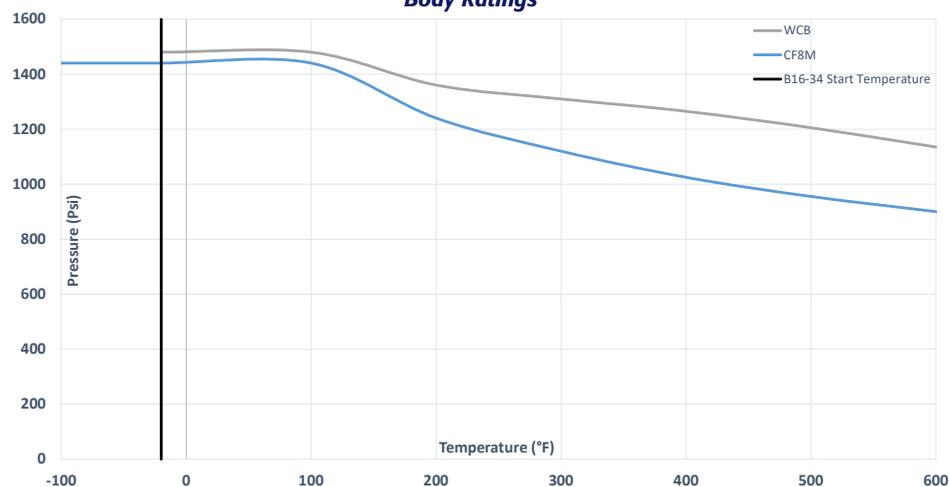
**Pressure vs. Temperature - Series D9/FD9-F6
Seat Pressure Ratings**



**API 607
CERTIFIED FIRESAFE**

Temp	Pressure - Seat Material			
	CTFE	STFE	PTFE	TFM™-1600
-75°				2000
-50°	2000	2000	1000	2000
100°	2000	2000	1000	2000
122°	2000	2000	1000	2000
150°	1843.6	1869	899	1852
200°	1564.3	1636	719	1587
250°	1284.9	1402	540	1323
300°	1005.6	1168	360	1058
350°	726.2	935	180	794
400°	446.9	701	0	529
450°	167.6	467		265
480°	0	327.1		105.8
500°		234		0
550°		0		

**Pressure vs. Temperature - Series D9/FD9-F6
Body Ratings**



Temp (°F)	WCB psi	CF8M psi
-20°	1480	1440
100°	1480	1440
200°	1360	1240
300°	1310	1120
400°	1265	1025
500°	1205	955
600°	1135	900

NOTE: B16-34 Temperature Rating Starts at -20°F

FD9-F6 Component Temperature Ratings

COMPONENT	MATERIAL	TEMPERATURE
Stem Packing	Graphite	-100°F to 1100°F
Stem Seal	TFM™-1600	-75°F to 500°F
Gaskets	Graphite	-100°F to 1100°F
Seats (Other Materials Available)	PTFE	-50°F to 400°F
	CTFE (standard)	-50°F to 480°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 CTFE Seats

SIZE	IN-LBS.
1/2"	150
3/4"	200
1"	260
1-1/2"	525
2"	610

VALVE SIZE	VALVE Cv
1/2"	28
3/4"	50
1"	95
1-1/2"	260
2"	485

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

Electric

Automated Ball Valve Package

Series FD9-F6
ASME Class 600
Flanged Ball Valve
Direct Mount

Firesafe

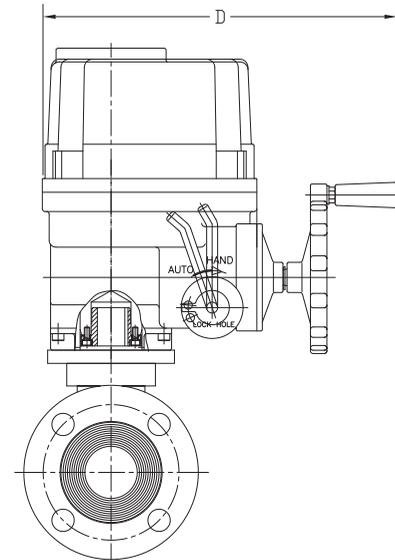
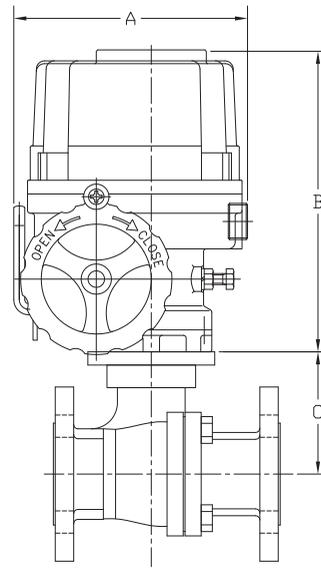
- Sizes 1/2" - 2"
- Available in 316SS or WCB
- ASME Class 600
- Full Port Design
- Superior Live Loaded Packing System
- Blowout Proof Stem w/ Dual Anti-Static Devices
- CTFE Seats Standard
- Pyramidal Stem Seal Design

STANDARDS

Design	ASME B16.34 (fully conforms)
Face to Face	ASME B16.10
Flange Dimensions	ASME B16.5
Pressure Testing	API 598
Fire Testing	API 607-7th Edition
Sulfide Stress Protection	NACE MR0175
Mounting	ISO 5211
CE Approval (optional)	2014/68/EU Module H
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015
Fugitive Emissions	ISO 15848-1



ASME Class 600 Flanged
Firesafe Tested to API-607
Direct Mount



DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	VALVE Cv
1/2"	5.94	5.24	1.92	4.08	28
3/4"	5.94	5.24	2.50	4.08	50
1"	5.94	5.24	2.68	4.08	95
1-1/2"	6.69	9.25	3.51	10.16	260
2"	6.69	9.25	4.33	10.16	485

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

SERIES FD9-F6 600# Flanged Direct Mount
Firesafe

ON-OFF	
SIZE	MODEL
1/2"	FD9-6C-050/WEA1-XX
3/4"	FD9-6C-075/WEA1-XX
1"	FD9-6C-100/WEA1-XX
1-1/2"	FD9-6C-150/WEB1-XX
2"	FD9-6C-200/WEB1-XX

MODULATING	
SIZE	MODEL
1/2"	FD9-6C-050/WEA2-XX
3/4"	FD9-6C-075/WEA2-XX
1"	FD9-6C-100/WEA2-XX
1-1/2"	FD9-6C-150/WEB2-XX
2"	FD9-6C-200/WEB2-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 #
FD9-6C-100/WEA1-XX

Firesafe Valve Series | | | | | | | | | |
 End Connection | | | | | | | | | |
 Seat Material | | | | | | | | | |
 Valve Size | | | | | | | | | |
 TRIAC Actuator Series | | | | | | | | | |
 Actuator Size | | | | | | | | | |
 On-Off | | | | | | | | | |

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

SUFFIX 1: Voltage
 SUFFIX 2: Options

HOW TO ORDER: Manual Valves

Series FD9-F6

1	Prefix
F	Firesafe (see valve series for details & testing)

2	Valve Series
D9	Direct Mount Ball Valve, Full Port

HOW TO ORDER MANUAL VALVES											
1	2	3	-	4	-	5	-	6	7	8-9-10	11
↓	↓	↓		↓		↓		↓	↓	↓	↓
F	D9	C	-	F6	-	0150	-	C	X	X	

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
J*	Low Carbon 304 Stainless Steel
H	Carbon Body / Hastelloy Ball & Stem
Q	Carbon Body/Monel Ball & Stem
R	316 SST Body/Monel Ball & Stem
T	Hastelloy C-276 Body, Ball & Stem
D	CD3MN Body/Duplex SST Ball & Stem
G	CE3MN Body/Super Duplex SST Ball & Stem
P*	CF8 (304 SST) Body/304 SST Ball & Stem

*Firesafe Tested

4	End Connection
F6	600# Flanged Ends

5	Valve Size
0050	1/2"
0075	3/4"
0100	1"
0150	1-1/2"
0200	2"

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% Carbon Graphite, 75% PTFE Seats (CTFE)
T*	TFM™-1600 Seats
A*	50% SS Powder / 50% TFM™-1600 Seats (STFM)
F	PTFE Cavity Filler Seats
H	TFM Cavity Filler Seats and Seals
J	STFE Cavity Filler Seats
R	RTFE Cavity Filler Seats
M*	MG1241 Seats
Z*	PEEK Seats (Required 17-4 PH® Stem)

*Firesafe Tested

7	Operator Options
X	No Specials/Series Standard Handle
G	Gear Operator
H	Gear Operator with Lockout Plate
S	Spring Return (1/2" - 1")
4	4" Lockable Stem Extension

8	Special Designation
X	No Specials, Series Standard
V	Vented Ball
E	Bonnet Extension Lockable Handle
D	Degreased & Bagged
A	Vented Ball, Degreased & Bagged

OPTIONS:

9	Special Designation
Blank	No Designation, Valve Series Standard
X	Multiple Option Designation
A	17-4 PH® Stem
B	XM-19 (Nitronic 50) Stem
H	Hard Coated (HMF) Ball

10	O-Ring
X	Multiple Option Designation
2	Markez® Z1028
4	Kalrez 4079
5	Chemraz 505
6	Kalrez 6375
7	Perlast® G75M
9	Chemraz® 564
B	Low Temp Buna
S	Silicone
E	EPDM

11	Special Designation
X	Multiple Option Designation
B	B7M Bolting
E	CE/PED Certified
M	Marine Epoxy Coating

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