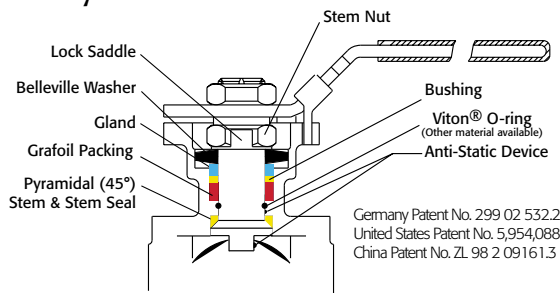


**API 607 - 6th Edition  
CERTIFIED**



Triac 90 Series Flanged Ball Valves feature a split body design. 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.



VALVE SIZE	VALVE 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

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.

### Easy to Automate!

See automated data sheets for pre-sized assemblies



Pneumatic



Electric

**TRIAQ®**

## Series F90

**FIRESAFE**

# Split Body Flanged Ball Valve

Sizes 1/2" - 4"

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

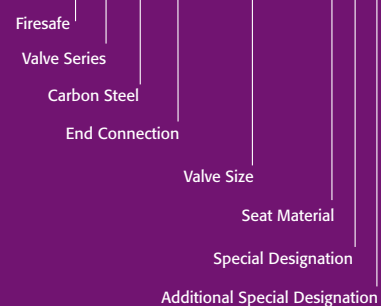
#### STANDARDS

DESIGN	ANSI/ASME B16.34
FACE TO FACE	ANSI/ASME B16.10
FLANGE DIMENSIONS	ANSI/ASME B16.5
PIPELINE VALVES	API 6D
PRESSURE TESTING	API 598
FIRE TESTING	API 607-6th Edition
FUGITIVE EMISSIONS	ISO 15848-1
	1/2" - 1" ISO FE BH - CO3 - SSA 2 - t200C - CL150 - ISO 15848-1
	1 1/2" - 2 1/2" ISO FE BH - CO3 - SSA 1 - t200C - CL150 - ISO 15848-1
	3" - 4" - ISO FE BH - CO3 - SSA 0 - t200C - CL150 - ISO 15848-1
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

#### HOW TO ORDER MANUAL VALVES

SAMPLE PART #

**F90C-F1-0300-XXX**



See part number matrix for itemized options

**SERIES F90 Split Body Flanged Ball Valve  
Firesafe**

**A-T Controls, Inc.**

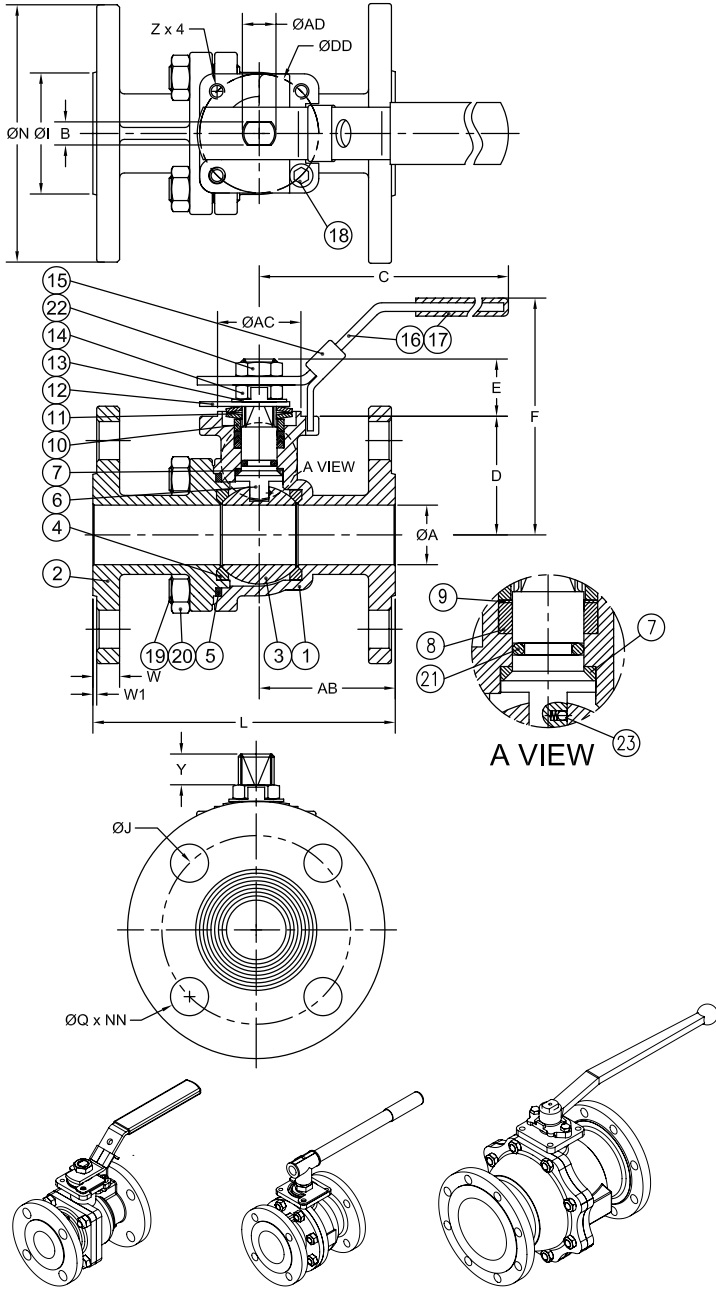
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# Series F90

## High Performance Full Port Split Body Flanged Ball Valve Series F90 (ANSI Class 150)

API 607 - 6th Edition  
CERTIFIED



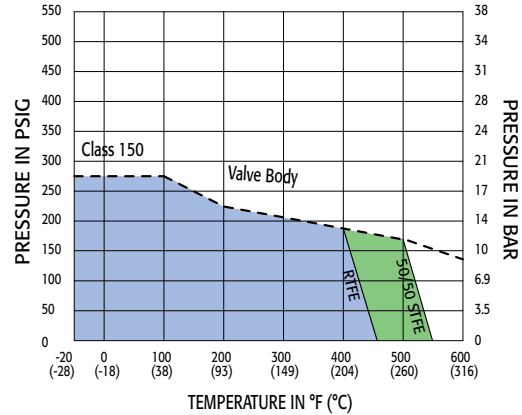
BENT HANDLE  
SIZES 1/2" - 2-1/2"  
PIPE HANDLE  
SIZES 3" - 4"  
CAST HANDLE  
SIZES 6"

NOTE: A-T Controls recommends a gear for 6" valves and larger.  
6" series 93 valves do not have lockable handles.

### DIMENSIONS (IN)

SIZE	A	B	C	D	E	F	I	J	L	N	Q	W	W1	Y	Z	AB	AC	AD	DD	NN	LBS	ISO 5211
1/2"	0.59	0.315	6.69	1.34	0.92	3.15	1.47	2.38	4.26	3.50	0.63	0.44	0.06	0.36	M5	1.82	1.17	0.43	1.654	4	3.7	F04
3/4"	0.79	0.315	6.69	1.65	0.94	3.43	1.82	2.75	4.62	3.88	0.63	0.44	0.06	0.40	M5	2.17	1.17	0.43	1.654	4	4.6	F04
1"	0.98	0.382	8.05	1.95	0.94	3.85	2.08	3.13	5.00	4.26	0.63	0.44	0.06	0.42	M6	2.20	1.37	0.56	1.969	4	6.8	F05
1-1/2"	1.50	0.472	10.28	3.08	1.37	6.02	2.88	3.88	6.50	5.00	0.63	0.56	0.06	0.58	M8	2.81	2.17	0.75	2.756	4	13.6	F07
2"	1.97	0.472	10.28	3.40	1.37	6.38	3.62	4.75	7.02	6.00	0.75	0.63	0.06	0.58	M8	3.38	2.17	0.75	2.756	4	19.2	F07
2-1/2"	2.56	0.472	10.28	3.83	1.37	6.81	4.12	5.50	7.49	7.00	0.75	0.69	0.06	0.58	M8	3.02	2.17	0.75	2.756	4	30.0	F07
3"	3.15	0.591	13.94	4.23	1.81	6.95	5.00	6.00	8.01	7.50	0.75	0.75	0.06	0.93	M10	4.01	2.76	0.94	4.016	4	41.0	F10
4"	3.94	0.591	13.94	4.82	1.79	7.52	6.19	7.50	9.04	9.00	0.75	0.94	0.06	0.93	M10	4.06	2.76	0.94	4.016	8	65.0	F10

Pressure vs. Temperature Chart  
for Valves 1/2" to 4"



NOTE: Dotted line shows the rating for valve body. Solid line shows the rating for valve seat. Both ratings need to be considered when determining the limitation of the valve for specific application. Consult factory for other seat materials.

### BREAKAWAY TORQUES

SIZE	IN-LBS
1/2"	92
3/4"	127
1"	150
1-1/2"	311
2"	396
2-1/2"	657
3"	980
4"	1,700

NOTE: RTFE Seats. Consult factory when using other seat material.

### MATERIALS LIST

NO.	PART NAME	QTY	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	GRAFOIL	GRAFOIL
6	STEM	1	ASTM A276 SS316	ASTM A276 SS316
7	STEM SEAL	1	RTFE	RTFE
8	GLAND PACKING	1	GRAFOIL	GRAFOIL
9	GLAND WASHER	1	RTFE	RTFE
10	GLAND BUSHING	1	AISI 304	AISI 304
11	BELLEVILLE WASHER	2	AISI 301	AISI 301
12	LOCKING PLATE	1	AISI 304	AISI 304
13	LOCK SADDLE	1	AISI 304	AISI 304
14	STEM NUT	1	AISI 304	AISI 304
15	HANDLE LOCK	1	AISI 304	AISI 304
16	HANDLE	1	AISI 304	AISI 304
17	HANDLE SLEEVE	1	VINYL	VINYL
18	STOP BOLT	1	AISI 304	AISI 304
19	BODY STUD	*	ASTM A193 GRADE B8	ASTM A193 GRADE B8
20	BODY NUT	*	ASTM A194 GRADE 8	ASTM A194 GRADE 8
21	STEM O-RING	1	VITON®	VITON®
22	HANDLE NUT	1	AISI 304	AISI 304
23	ANTI-STATIC DEVICE	2	AISI 316	AISI 316

\* 1/2" THRU 2" QTY = 4 PCS  
\* 2-1/2" THRU 4" QTY = 8 PCS



**Pneumatic  
Double Acting  
Automated  
Ball Valve Package  
Series F90  
ANSI Class 150  
Flanged Ball Valve**

Firesafe

Sizes 1/2" - 4"

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

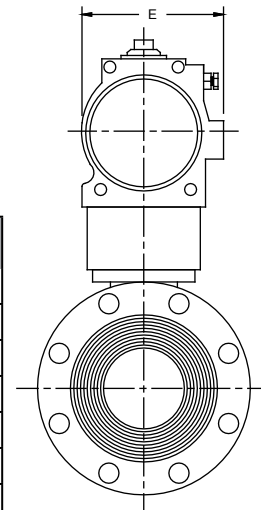
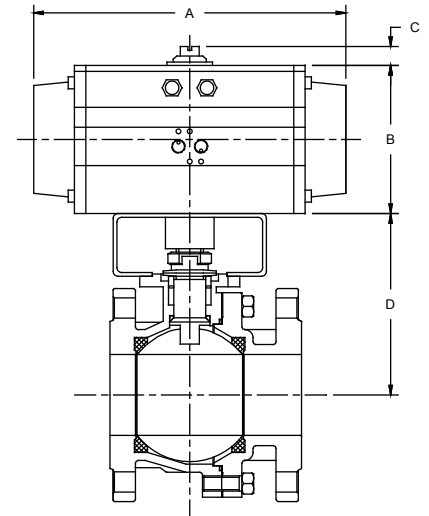
**STANDARDS**

DESIGN	ANSI/ASME B16.34
FACE TO FACE	ANSI/ASME B16.10
FLANGE DIMENSIONS	ANSI/ASME B16.5
PIPELINE VALVES	API 6D
PRESSURE TESTING	API 598
FIRE TESTING	API 607-6th Edition
FUGITIVE EMISSIONS	ISO 15848-1
1/2" - 1" ISO FE BH - CO3 - SSA 2 - t200C - CL150 - ISO 15848-1	
1 1/2" - 2 1/2" ISO FE BH - CO3 - SSA 1 - t200C - CL150 - ISO 15848-1	
3" - 4" ISO FE BH - CO3 - SSA 0 - t200C - CL150 - ISO 15848-1	
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

**API 607 - 6th Edition  
CERTIFIED**



**150# Flanged  
Firesafe tested to API-607**



**DIMENSIONS (IN)**

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/2"	5.98	2.76	0.79	2.91	2.58	15
3/4"	5.98	2.76	0.79	3.21	2.58	45
1"	7.95	3.43	0.79	3.52	3.29	85
1-1/2"	9.29	4.49	0.79	5.04	4.41	275
2"	9.29	4.49	0.79	5.37	4.41	460
2-1/2"	10.87	4.88	0.79	5.80	4.82	700
3"	11.46	5.28	0.79	6.85	5.20	1,100
4"	13.90	6.18	0.79	7.44	6.04	2,200

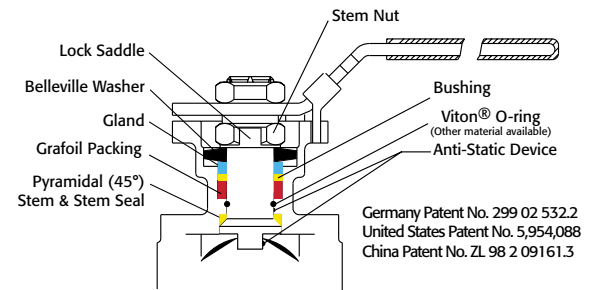
DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

**SERIES F90 150# Flanged**

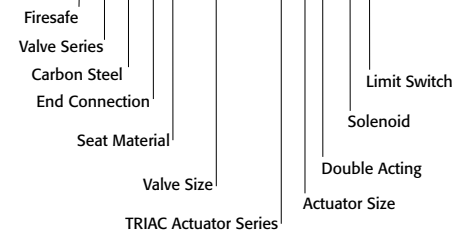
**Firesafe**

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/2"	F90-F1-050/TR1D-XX
3/4"	F90-F1-075/TR1D-XX
1"	F90-F1-100/2R2D-XX
1-1/2"	F90-F1-150/2R3D-XX
2"	F90-F1-200/2R3D-XX
2-1/2"	F90-F1-250/2R4D-XX
3"	F90-F1-300/2R5D-XX
4"	F90-F1-400/2R6D-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/2"	F90-F1-050/TR1D-XX
3/4"	F90-F1-075/2R2D-XX
1"	F90-F1-100/2R2D-XX
1-1/2"	F90-F1-150/2R3D-XX
2"	F90-F1-200/2R3D-XX
2-1/2"	F90-F1-250/2R5D-XX
3"	F90-F1-300/2R6D-XX
4"	F90-F1-400/2R6D-XX



SAMPLE PART #  
**F90C-F1-0150/2R3D-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.



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**Pneumatic  
Spring Return  
Automated  
Ball Valve Package  
Series F90  
ANSI Class 150  
Flanged Ball Valve**

Firesafe

Sizes 1/2" - 4"

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

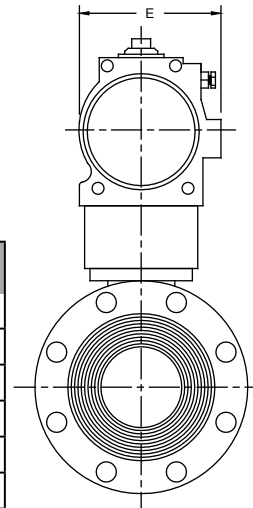
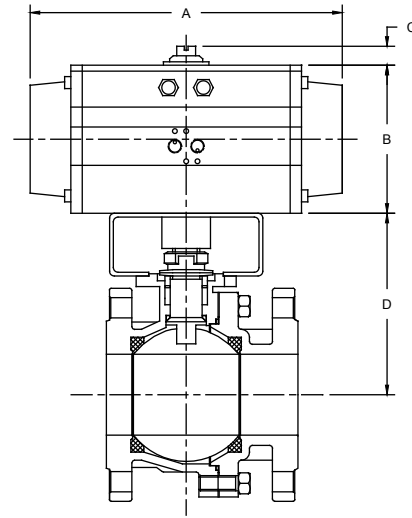
**STANDARDS**

DESIGN	ANSI/ASME B16.34
FACE TO FACE	ANSI/ASME B16.10
FLANGE DIMENSIONS	ANSI/ASME B16.5
PIPELINE VALVES	API 6D
PRESSURE TESTING	API 598
FIRE TESTING	API 607-6th Edition
FUGITIVE EMISSIONS	ISO 15848-1
1/2" - 1" ISO FE BH - CO3 - SSA 2 - t200C - CL150 - ISO 15848-1	
1 1/2" - 2 1/2" ISO FE BH - CO3 - SSA 1 - t200C - CL150 - ISO 15848-1	
3" - 4" ISO FE BH - CO3 - SSA 0 - t200C - CL150 - ISO 15848-1	
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

**API 607 - 6th Edition  
CERTIFIED**



**150# Flanged  
Firesafe tested to API-607**



**DIMENSIONS (IN)**

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/2"	7.95	3.43	0.79	2.90	3.29	15
3/4"	7.95	3.43	0.79	3.20	3.29	45
1"	9.29	4.49	0.79	3.52	4.41	85
1-1/2"	9.29	4.49	0.79	5.04	4.41	275
2"	10.87	4.88	0.79	5.37	4.82	460
2-1/2"	13.90	6.18	0.79	5.80	6.04	700
3"	13.90	6.18	0.79	6.85	6.04	1,100
4"	15.16	6.93	0.79	7.44	6.69	2,200

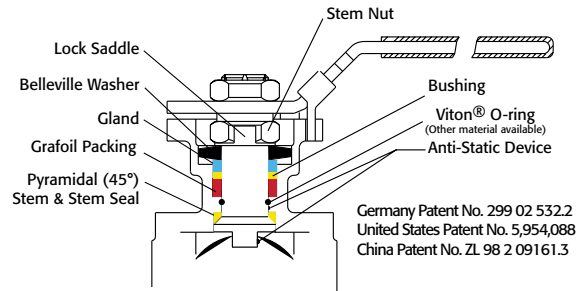
DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

**SERIES F90 150# Flanged**

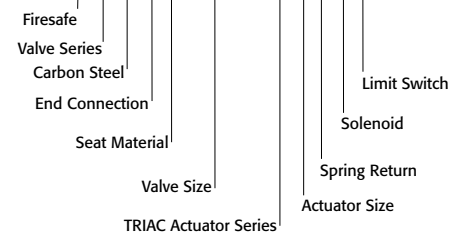
**Firesafe**

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/2"	F90-F1-050/2R2S-XX
3/4"	F90-F1-075/2R3S-XX
1"	F90-F1-100/2R3S-XX
1-1/2"	F90-F1-150/2R3S-XX
2"	F90-F1-200/2R4S-XX
2-1/2"	F90-F1-250/2R6S-XX
3"	F90-F1-300/2R6S-XX
4"	F90-F1-400/2R7S-XX

SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/2"	F90-F1-050/2R3S-XX
3/4"	F90-F1-075/2R3S-XX
1"	F90-F1-100/2R3S-XX
1-1/2"	F90-F1-150/2R4S-XX
2"	F90-F1-200/2R5S-XX
2-1/2"	F90-F1-250/2R6S-XX
3"	F90-F1-300/2R6S-XX
4"	F90-F1-400/2R7S-XX



SAMPLE PART #  
**F90C-F1-0150/2R3S-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.



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**Electric**  
**Automated**  
**Ball Valve Package**  
**Series F90**  
**ANSI Class 150**  
**Flanged Ball Valve**

Firesafe

Sizes 1/2" - 4"

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	ANSI/ASME B16.34
FACE TO FACE	ANSI/ASME B16.10
FLANGE DIMENSIONS	ANSI/ASME B16.5
PIPELINE VALVES	API 6D
PRESSURE TESTING	API 598
FIRE TESTING	API 607-6th Edition
FUGITIVE EMISSIONS	ISO 15848-1
1/2" - 1" ISO FE BH - CO3 - SSA 2 - t200C - CL150 - ISO 15848-1	
1 1/2" - 2 1/2" ISO FE BH - CO3 - SSA 1 - t200C - CL150 - ISO 15848-1	
3" - 4" - ISO FE BH - CO3 - SSA 0 - t200C - CL150 - ISO 15848-1	
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

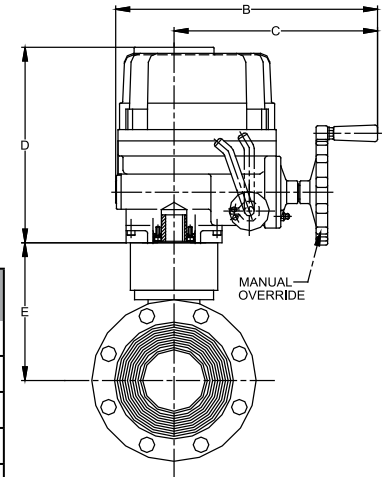
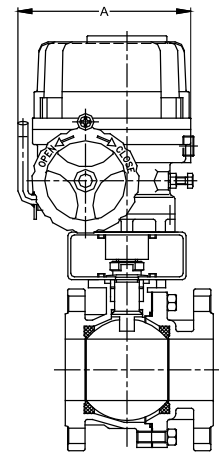
**API 607 - 6th Edition**  
**CERTIFIED**



**150# Flanged**  
**Firesafe tested to API-607**

**DIMENSIONS (IN)**

VALVE SIZE	A	B	C	D	E	VALVE Cv
1/2"	4.94	4.08	N/A	5.24	2.90	15
3/4"	4.94	4.08	N/A	5.24	3.20	45
1"	4.94	4.08	N/A	5.24	3.52	85
1-1/2"	4.94	4.08	N/A	5.24	5.05	275
2"	4.94	4.08	N/A	5.24	5.37	460
2-1/2"	9.02	13.31	10.43	10.55	5.80	700
3"	9.02	13.31	10.43	10.55	6.85	1,100
4"	10.20	14.49	11.26	11.42	7.44	2,200

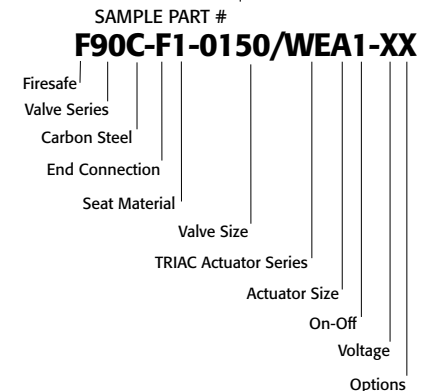
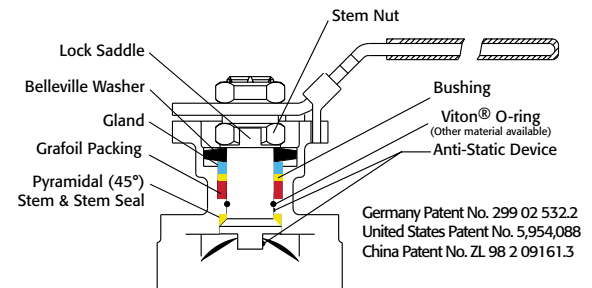


**SERIES F90 150# Flanged**

**Firesafe**

ON-OFF	
SIZE	MODEL
1/2"	F90-F1-050/WEA1-XX
3/4"	F90-F1-075/WEA1-XX
1"	F90-F1-100/WEA1-XX
1-1/2"	F90-F1-150/WEA1-XX
2"	F90-F1-200/WEB1-XX
2-1/2"	F90-F1-250/WEC1-XX
3"	F90-F1-300/WEC1-XX
4"	F90-F1-400/WEE1-XX

MODULATING	
SIZE	MODEL
1/2"	F90-F1-050/WEA2-XX
3/4"	F90-F1-075/WEA2-XX
1"	F90-F1-100/WEA2-XX
1-1/2"	F90-F1-150/WEA2-XX
2"	F90-F1-200/WEB2-XX
2-1/2"	F90-F1-250/WEC2-XX
3"	F90-F1-300/WEC2-XX
4"	F90-F1-400/WEE2-XX



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



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**OPTIONS**

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.

# Valve Options

## Various Seat Materials

PTFE, RTFE, 50/50 STFE, 25% CTFE, Delrin, PEEK, UHMWPE, TFM-1600

## Operator Options

Quarter-turn Gear Operators  
Spring Return "Deadman" Handles  
Oval handles, TEE Handles

## Specials and Solutions

Steam Jackets  
Stem Extensions  
V-ported Control Valves  
Multi-port Valve Solutions  
Fugitive Emissions Bonnets (TSM's)  
Oxygen Cleaning  
Lockout Brackets  
Vented Balls  
"No Play" Mounting Kits

## • FM Approved Valves and Assemblies



Manual and automated valve assemblies for gas burner management applications and safety shutoff



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# Other Products

## Special Seats Balls and Seal Designs



## Floor Mounted Damper Drives



## Fusible Link Assemblies



## Lockout Mounting Kits



## Special Multi-Port Valves



## Steam Jacketed Valves



## Limit Switches Mounted on Manual Valves



## 180° Actuators



## Stem Extensions



## Dual Valve Assemblies

