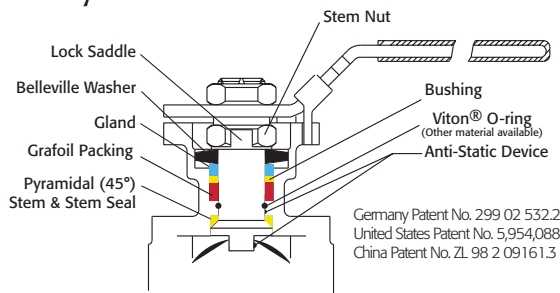


**API 607 - 6th Edition
CERTIFIED**



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
CONTROLS

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

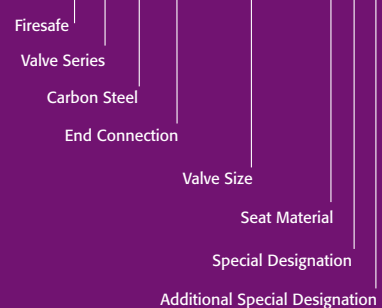
STANDARDS

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
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 9001:2008

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.

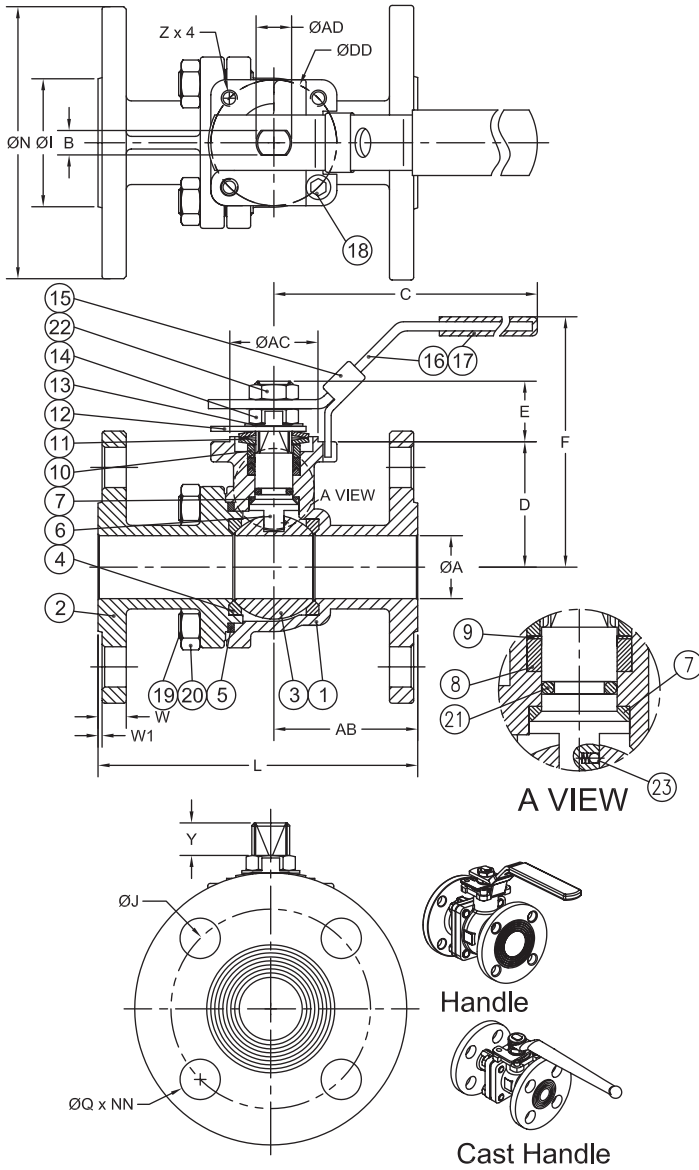
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Cincinnati, Ohio 45246
www.atcontrols.com

PHONE (513) 247-5465
FAX (513) 247-5462
sales@atcontrols.com

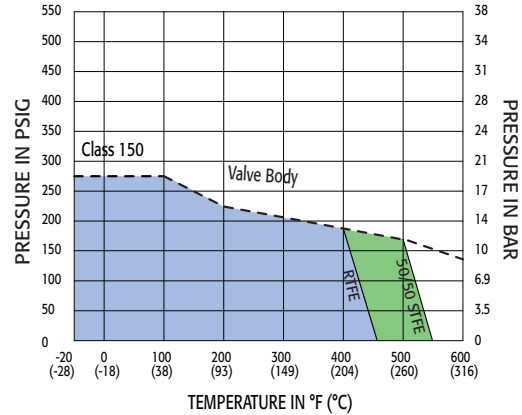
Series F90

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

API 607 - 6th Edition
CERTIFIED



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

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	4.26	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

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A-T Controls reserves the right to change product designs and technical/dimensional specifications without notice.

A-T Controls, Inc.

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**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

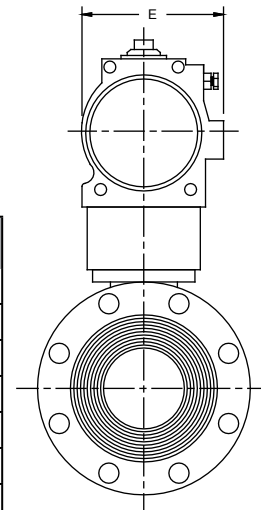
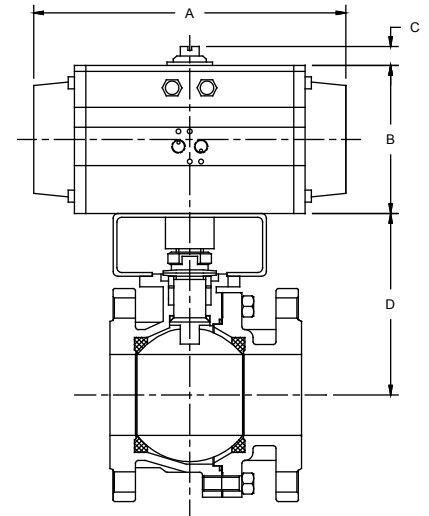
STANDARDS

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
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 9001:2008

**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

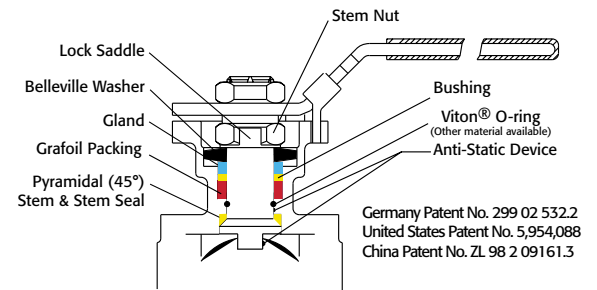
DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

SERIES F90 150# Flanged

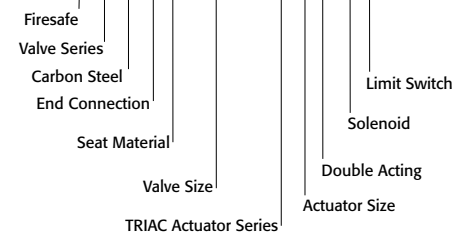
Firesafe

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

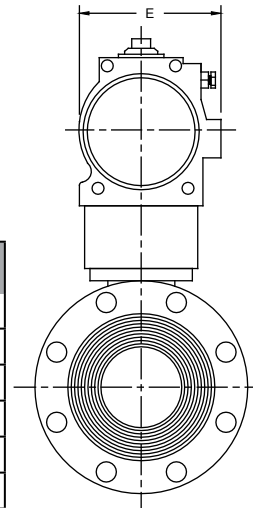
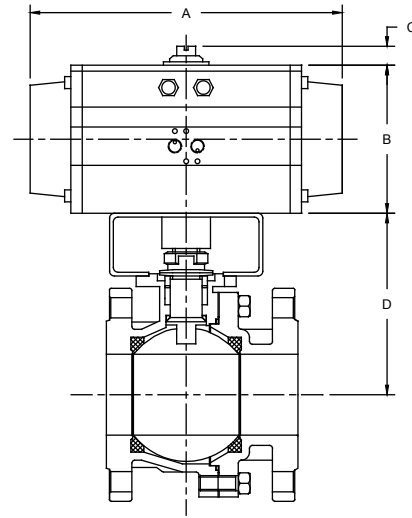
STANDARDS

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
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 9001:2008

**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

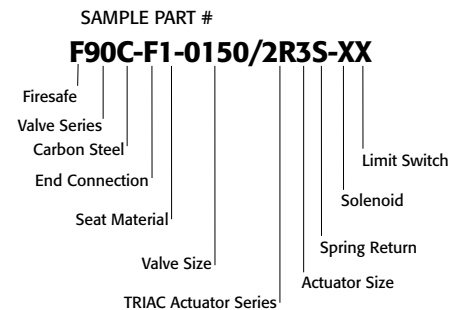
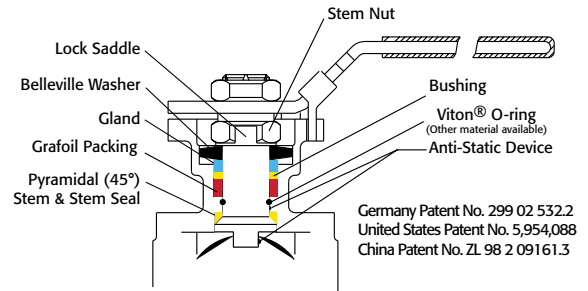
DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

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



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
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 9001:2008

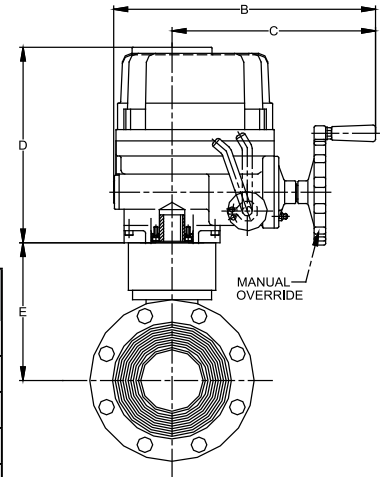
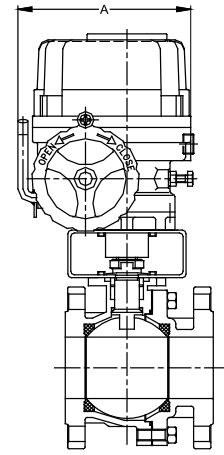
API 607 - 6th Edition CERTIFIED



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

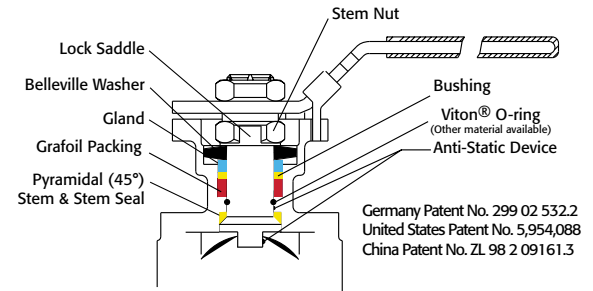


SERIES F90 150# Flanged

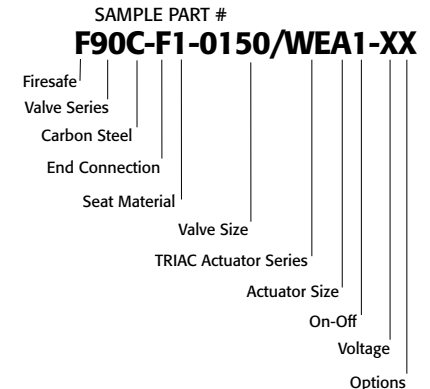
Firesafe

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



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



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.

F90EL-20151109
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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

Other Products

Special Seats Balls and Seal Designs



Steam Jacketed Valves



Floor Mounted Damper Drives



Limit Switches Mounted on Manual Valves



Fusible Link Assemblies



180° Actuators



Lockout Mounting Kits



Stem Extensions



Special Multi-Port Valves



Dual Valve Assemblies

