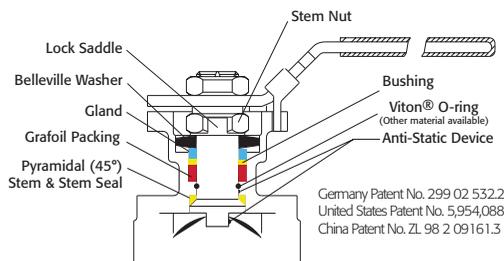


**API 607
CERTIFIED**



The F88 Series Firesafe Ball Valves have successfully passed the API-607 6th Edition test. They are available with CF8M or WCB body. These high quality investment cast valves 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.



Conforms to ASME B16.34 (2020)

- SST Body - Class 260 to 600
- WCB Body - Class up to 600

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

A-T Controls, Inc.

Series F88

FIRESAFE

3-Piece Design

Sizes 1/4" - 4"

Full Port Design

Conforms to ASME B16.34 (2020)

- Classes up to 600
- 1000 to 2000 psi (BPVC) by size

CF8M or WCB

Threaded, Socket Weld, or Butt Weld Ends

Superior Live Loaded Packing System

Direct Mount

Blowout Proof Stem w/ Dual Anti-Static Devices

RTFE Seats Standard

Pyramidal Stem Seal Design

Monel Ball & Stem Available

Lockable Manual Handle

STANDARDS

Conforms to ASME B16.34 (2020)

End Connections	ASME B16.25, B1.20.1, B16.11
Pressure Testing	API 598
Fire Testing	API 607-7th Edition
Fugitive Emissions	ISO 15848-1
Sulfide Stress Protection	NACE MR0175
Mounting	ISO 5211
CE Approval (optional)	2014/68/EU Module H
Safety Integrity	SIL 3; IEC 61508:2010
Marking System for Valves	MSS SP-25, ISO 5209
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015
Gas Shut-off Valve	CSA 3.16:21

Page 2	Valve Technical Data
Page 3	Valve Materials & Dimensions
Page 4	Double Acting Automation
Page 5	Spring Return Automation
Page 6	Electric Automation
Page 7	How to Order & Options

A-T Controls, Inc.

SERIES F88 3-Piece

Firesafe

Series F88

API 607
CERTIFIED

High Performance, Full Port
3-Piece Ball Valve
ISO 5211 Direct Mount

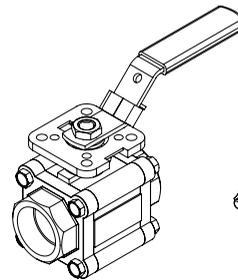
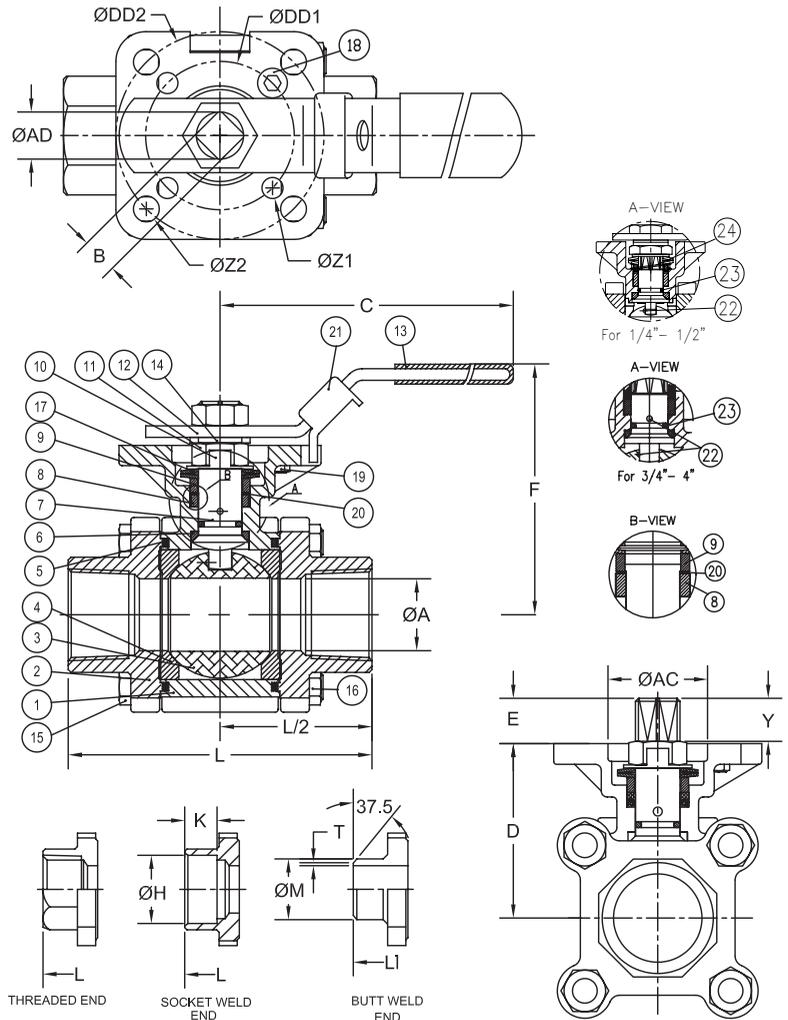
Classes up to 600
1000 - 2000 psi by size
1/4" to 4"

MATERIALS LIST

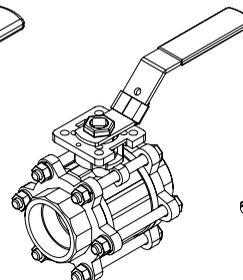
NO.	PART NAME	QTY	STAINLESS STEEL	CARBON STEEL	REPAIR KIT
1	BODY	1	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB	
2	TH END CAP	2	ASTM A351 GRADE CF8M	ASTM A216 GRADE WCB	
2	SW/BW END CAP	2	ASTM A351 GRADE CF3M	ASTM A216 GRADE WCB	
3	BALL	1	ASTM A351 GRADE CF8M	ASTM A351 GRADE CF8M	
4	SEAT	2	RTFE	RTFE	✓
5	JOINT GASKET	2	GRAPHITE	GRAPHITE	✓
6	STEM SEAL	1	TFM™-1600	TFM™-1600	✓
7	STEM	1	ASTM A276 316SS	ASTM A276 316SS	
8	GLAND PACKING	1	GRAPHITE	GRAPHITE	✓
9	GLAND BUSHING	1	AISI 304	AISI 304	
10	LOCK SADDLE	1	AISI 304	AISI 304	
11	STEM NUT	2	AISI 304	AISI 304	
12	HANDLE	1	AISI 304	AISI 304	
13	HANDLE SLEEVE	1	VINYL	VINYL	
14	STEM WASHER	1	AISI 304	AISI 304	
15	BODY BOLT	*	ASTM A193 GRADE B8M	ASTM A193 GRADE B7M	
16	BODY BOLT NUT	*	ASTM A194 GRADE 8M	ASTM A194 GRADE 2HM	
17	BELLEVILLE WASHER	2	AISI 301	AISI 301	
18	STOP BOLT	1	AISI 304	AISI 304	
19	STOP BOLT NUT	1	AISI 304	AISI 304	
20	GLAND WASHER	1	RTFE	RTFE	✓
21	HANDLE LOCK	1	AISI 304	AISI 304	
22	ANTI-STATIC DEVICE	@	AISI 316	AISI 316	
23	O-RING	1	FKM	FKM	✓
24	SPRING	1	AISI 316	AISI 316	

NOTE: Sizes 2 1/2" thru 4" include stainless steel seat retainer rings.

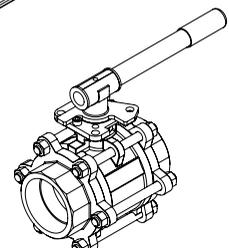
* 1/4" THRU 1 1/2" QTY = 4 PCS @ 1/4" THRU 1/2" QTY = 1 PC
* 2" THRU 4" QTY = 6 PCS @ 3/4" THRU 4" QTY = 2 PCS



BENT HANDLE
SIZES 1/4" - 1-1/2"



SIZE 2"



PIPE HANDLE
SIZES 2-1/2" - 4"

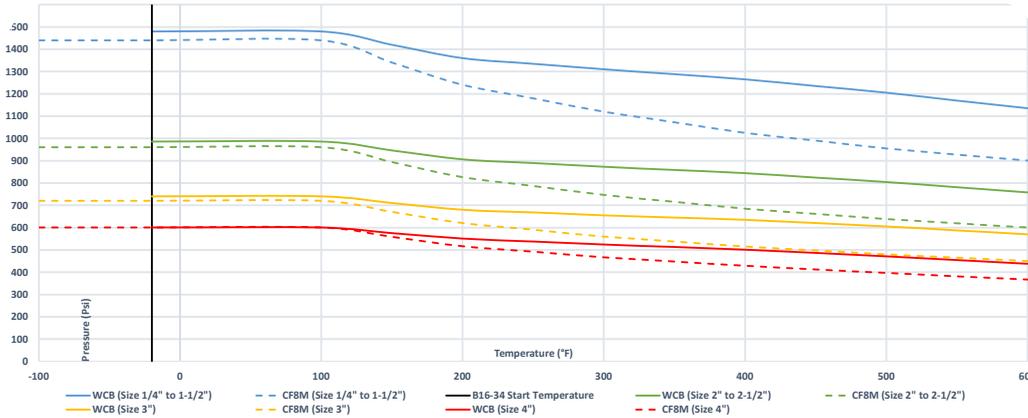
DIMENSIONS (IN)

SIZE	øA	B	C	D	E	F	H	K	L	LI	M	T	Y	AC	AD	DD1	DD2	øZ2	øZ1	(LBS)	ISO 5211
1/4"	0.45	0.354	5.47	1.66	0.31	3.00	0.55	0.39	2.95	2.95	0.85	0.13	0.25	1.04	0.44	1.654	1.969	0.28	0.28	1.6	F04/F05
3/8"	0.50	0.354	5.47	1.66	0.31	3.00	0.69	0.39	2.95	2.95	0.85	0.11	0.25	1.04	0.44	1.654	1.969	0.28	0.28	1.6	F04/F05
1/2"	0.59	0.354	5.47	1.66	0.31	3.00	0.85	0.39	2.85	2.95	0.85	0.06	0.25	1.07	0.44	1.654	1.969	0.28	0.28	2.0	F04/F05
3/4"	0.79	0.354	5.47	1.83	0.33	3.20	1.07	0.51	3.36	3.54	1.07	0.06	0.33	1.07	0.44	1.969	2.756	0.34	0.28	3.0	F05/F07
1"	0.98	0.433	6.50	2.31	0.41	3.86	1.34	0.51	4.15	4.33	1.34	0.06	0.41	1.34	0.56	1.969	2.756	0.34	0.28	4.5	F05/F07
1-1/4"	1.26	0.433	6.50	2.46	0.41	4.00	1.69	0.51	4.37	4.53	1.68	0.06	0.41	1.34	0.56	1.969	2.756	0.34	0.28	6.0	F05/F07
1-1/2"	1.50	0.551	8.46	3.11	0.53	5.04	1.92	0.51	5.01	5.12	1.91	0.06	0.53	1.54	0.74	1.969	2.756	0.34	0.28	10.0	F05/F07
2"	1.97	0.551	8.46	3.42	0.53	5.35	2.40	0.63	5.62	5.62	2.38	0.06	0.53	1.54	0.74	1.969	2.756	0.35	0.30	13.0	F05/F07
2-1/2"	2.56	0.748	10.31	4.28	0.66	6.60	2.89	0.63	7.28	7.28	3.00	0.08	0.66	2.09	0.94	2.756	4.016	0.47	0.39	26.0	F07/F10
3"	3.15	0.748	10.31	4.63	0.70	6.96	3.54	0.63	8.07	8.07	3.54	0.08	0.70	2.09	0.94	2.756	4.016	0.47	0.39	34.0	F07/F10
4"	3.94	0.748	12.28	5.26	0.66	7.59	4.54	0.79	9.45	9.45	4.57	0.08	0.66	2.09	0.94	2.756	4.016	0.47	0.39	52.0	F07/F10

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

Pressure vs. Temperature | Series F88

Body & End Cap Pressure Ratings B16.34-2020



Pressure Class/Rating		
Size	ASME B16.34-2020 Pressure Class	BPVC*-2019 Pressure Rating (psig)
1/4" - 1"	600	2000
1 1/4" - 1 1/2"	600	1500
2"	400	1500
2 1/2"	400	1000
3"	300	1000
4"	260 (F88) 254 (F88C)	1000

*ASME Boiler Pressure Vessel Code

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

Break Away Torque for RTFE Seats

SIZE	IN-LBS.
1/4"	58
3/8"	58
1/2"	58
3/4"	83
1"	120
1 1/4"	171
1 1/2"	235
2"	398
2 1/2"	595
3"	864
4"	1,509

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

Cv

SIZE	Cv
1/4"	7
3/8"	8
1/2"	15
3/4"	40
1"	70
1 1/4"	110
1 1/2"	250
2"	430
2 1/2"	600
3"	1,100
4"	2,000

Size	Pressure Class B16.34 (2020)			
	CF8M		WCB	
	Class	Rating (psi)	Class	Rating (psi)
1/4"	600	1440	600	1480
3/8"	600	1440	600	1480
1/2"	600	1440	600	1480
3/4"	600	1440	600	1480
1"	600	1440	600	1480
1 1/4"	600	1440	600	1480
1 1/2"	600	1440	600	1480
2"	400	960	400	986
2 1/2"	400	960	400	986
3"	300	720	300	740
4"	260	600	254	600

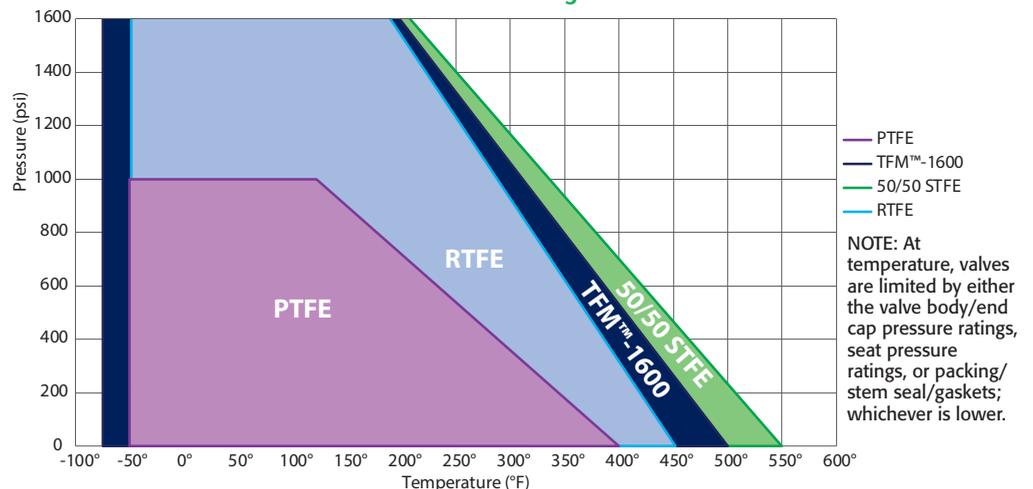
F88 Component Temperature Ratings

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
	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

Pressure vs. Temperature | Series F88

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		



Pneumatic Double Acting Automated Ball Valve Package

Series F88 3-Piece Ball Valve

- Firesafe
- Sizes 1/4" - 4"
- Full Port Design
- Conforms to ASME B16.34 (2020)
 - Classes up to 600
 - 1000 to 2000 psi (BPVC)

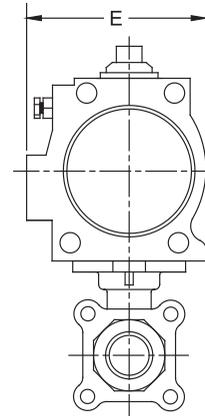
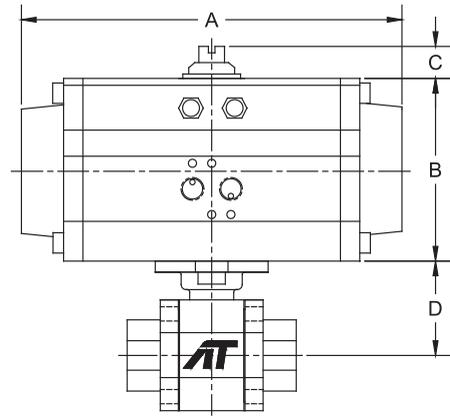
- CF8M or WCB
- TH, SW, or BW Ends
- Superior Live Loaded Packing System
- Blowout Proof Stem w/ Dual Anti-Static Devices
- RTFE Seats Standard
- Pyramidal Stem Seal Design
- Monel Ball & Stem Available

STANDARDS

- Conforms to ASME B16.34 (2020)
- End Connections ASME B16.25, B1.20.1, B16.11
- Pressure Testing API 598
- Fire Testing API-7th Edition
- Fugitive Emissions ISO 15848-1
- Sulfide Stress Protection NACE MR0175
- Mounting ISO 5211
- CE Approval (optional) 2014/68/EU Module H
- Safety Integrity SIL 3; IEC 61508:2010
- Marking System for Valves MSS SP-25, ISO 5209
- Material Certification EN 10204-3.1 MTR
- Quality Assurance ISO 9001:2015
- Gas Shut-Off Valve CSA 3.16:21



Direct Mount
Firesafe tested to API-607



DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E
1/4"	6.50	2.84	0.79	1.66	2.66
3/8"	6.50	2.84	0.79	1.66	2.66
1/2"	6.50	2.84	0.79	1.66	2.66
3/4"	7.60	3.47	0.79	1.83	3.35
1"	7.60	3.47	0.79	2.31	3.35
1-1/4"	7.60	3.47	0.79	2.46	3.35
1-1/2"	7.60	3.47	0.79	3.11	3.35
2"	9.29	4.30	0.79	3.42	4.18
2-1/2"	9.29	4.30	0.79	4.28	4.18
3"	11.02	4.61	0.79	4.63	4.27
4"	11.02	4.61	0.79	5.26	4.27

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

SERIES F88

Firesafe

SIZED FOR 80 psi AIR SUPPLY

SIZE	MODEL
1/4"	F88-TX-025/3RDD-XX
3/8"	F88-TX-038/3RDD-XX
1/2"	F88-TX-050/3RDD-XX
3/4"	F88-TX-075/3RED-XX
1"	F88-TX-100/3RED-XX
1 1/4"	F88-TX-125/3RED-XX
1 1/2"	F88-TX-150/3RED-XX
2"	F88-TX-200/3RFD-XX
2 1/2"	F88-TX-250/3RFD-XX
3"	F88-TX-300/3RGD-XX
4"	F88-TX-400/3RHD-XX

SIZED FOR 60 psi AIR SUPPLY

SIZE	MODEL
1/4"	F88-TX-025/3RDD-XX
3/8"	F88-TX-038/3RDD-XX
1/2"	F88-TX-050/3RDD-XX
3/4"	F88-TX-075/3RED-XX
1"	F88-TX-100/3RED-XX
1 1/4"	F88-TX-125/3RED-XX
1 1/2"	F88-TX-150/3RED-XX
2"	F88-TX-200/3RFD-XX
2 1/2"	F88-TX-250/3RGD-XX
3"	F88-TX-300/3RHD-XX
4"	F88-TX-400/3RJD-XX

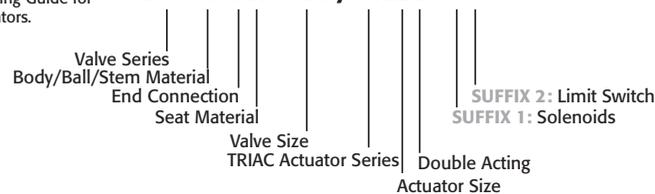
OPTIONS

Suffix1	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

Suffix2	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
H	NEMA 4 Std. Enc.	APL-310N

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 # F88C-TX-075/3RED-XX



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

AT Controls, Inc.

Pneumatic Spring Return Automated Ball Valve Package

Series F88 3-Piece Ball Valve

Firesafe

Sizes 1/4" - 4"

Full Port Design

Conforms to ASME B16.34 (2020)

- Classes up to 600
- 1000 to 2000 psi (BPVC)

CF8M or WCB

TH, SW, or BW Ends

Superior Live Loaded Packing System

Blowout Proof Stem w/ Dual Anti-Static Devices

RTFE Seats Standard

Pyramidal Stem Seal Design

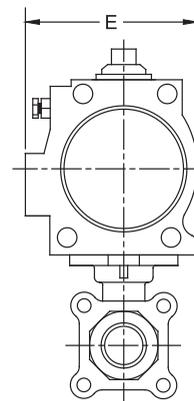
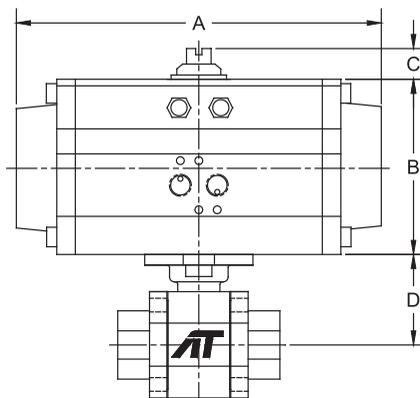
Monel Ball & Stem Available

STANDARDS

Conforms to ASME B16.34 (2020)
 End Connections ASME B16.25, B1.20.1, B16.11
 Pressure Testing API 598
 Fire Testing API-7th Edition
 Fugitive Emissions ISO 15848-1
 Sulfide Stress Protection NACE MR0175
 Mounting ISO 5211
 CE Approval (optional) 2014/68/EU Module H
 Safety Integrity SIL 3; IEC 61508:2010
 Marking System for Valves MSS SP-25, ISO 5209
 Material Certification EN 10204-3.1 MTR
 Quality Assurance ISO 9001:2015
 Gas Shut-Off Valve CSA 3.16:21



Direct Mount
Firesafe tested to API-607



DIMENSIONS (IN)

VALVE SIZE	A	B	C	D	E
1/4"	6.50	2.84	0.79	1.66	2.66
3/8"	6.50	2.84	0.79	1.66	2.66
1/2"	6.50	2.84	0.79	1.66	2.66
3/4"	7.60	3.47	0.79	1.83	3.35
1"	9.29	4.30	0.79	2.31	4.18
1-1/4"	9.29	4.30	0.79	2.46	4.18
1-1/2"	9.29	4.30	0.79	3.11	4.18
2"	11.02	4.61	0.79	3.42	4.27
2-1/2"	13.39	6.14	0.79	4.28	5.59
3"	13.39	6.14	0.79	4.63	5.59
4"	15.35	6.81	1.18	5.26	5.98

DIMENSIONS SHOWN ARE FOR ASSEMBLIES SIZED FOR 80 PSI SUPPLY

SERIES F88

Firesafe

SIZED FOR 80 psi AIR SUPPLY	
SIZE	MODEL
1/4"	F88-TX-025/3RDS-XX
3/8"	F88-TX-038/3RDS-XX
1/2"	F88-TX-050/3RDS-XX
3/4"	F88-TX-075/3RES-XX
1"	F88-TX-100/3RFS-XX
1 1/4"	F88-TX-125/3RFS-XX
1 1/2"	F88-TX-150/3RFS-XX
2"	F88-TX-200/3RGS-XX
2 1/2"	F88-TX-250/3RJS-XX
3"	F88-TX-300/3RJS-XX
4"	F88-TX-400/3RKS-XX

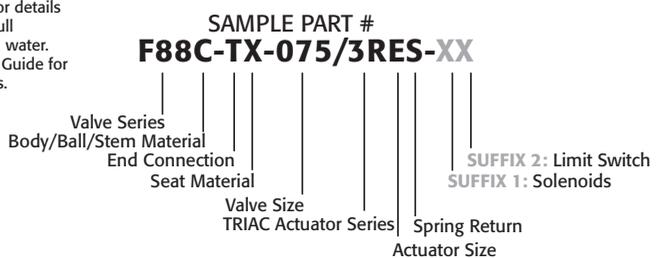
SIZED FOR 60 psi AIR SUPPLY	
SIZE	MODEL
1/4"	F88-TX-025/3RD4-XX
3/8"	F88-TX-038/3RD4-XX
1/2"	F88-TX-050/3RD4-XX
3/4"	F88-TX-075/3RE4-XX
1"	F88-TX-100/3RF4-XX
1 1/4"	F88-TX-125/3RF4-XX
1 1/2"	F88-TX-150/3RG4-XX
2"	F88-TX-200/3RH4-XX
2 1/2"	F88-TX-250/3RJ4-XX
3"	F88-TX-300/3RK4-XX
4"	F88-TX-400/3RM4-XX

OPTIONS

Suffix1	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

Suffix2	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
H	NEMA 4 Std. Enc.	APL-310N

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.



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

Electric Automated Ball Valve Package Series F88 3-Piece Ball Valve

Firesafe

Sizes 1/4" - 4"

Full Port Design

Conforms to ASME B16.34 (2020)

- Classes up to 600
- 1000 to 2000 psi (BPVC)

CF8M or WCB

TH, SW, or BW Ends

Superior Live Loaded Packing System

Blowout Proof Stem w/ Dual Anti-Static Devices

RTFE Seats Standard

Pyramidal Stem Seal Design

Monel Ball & Stem Available

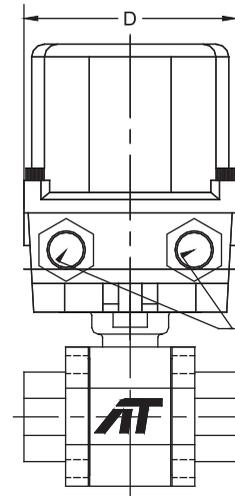
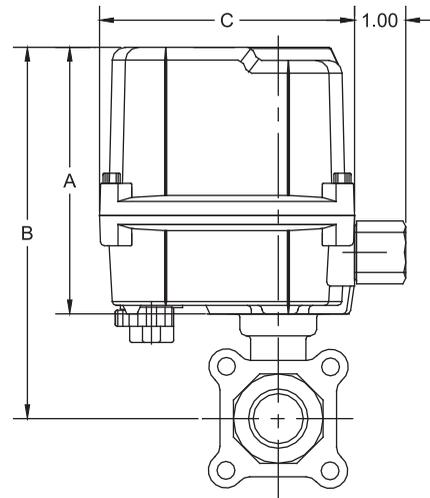
STANDARDS

Conforms to ASME B16.34 (2020)	
End Connections	ASME B16.25, B1.20.1, B16.11
Pressure Testing	API 598
Fire Testing	API-7th Edition
Fugitive Emissions	ISO 15848-1
Sulfide Stress Protection	NACE MR0175
Mounting	ISO 5211
CE Approval (optional)	2014/68/EU Module H
Safety Integrity	SIL 3; IEC 61508:2010
Marking System for Valves	MSS SP-25, ISO 5209
Material Certification	EN 10204-3.1 MTR
Quality Assurance	ISO 9001:2015
Gas Shut-Off Valve	CSA 3.16:21

API 607 CERTIFIED



Direct Mount
Firesafe tested to API-607



SERIES F88

Firesafe

DIMENSIONS (IN)

VALVE SIZE	A	B	C	D
1/4"	5.24	6.90	4.94	4.08
3/8"	5.24	6.90	4.94	4.08
1/2"	5.24	6.90	4.94	4.08
3/4"	5.24	7.07	4.94	4.08
1"	5.24	7.55	4.94	4.08
1 1/4"	5.24	7.70	4.94	4.08
1 1/2"	5.24	8.35	4.94	4.08
2"	5.24	8.66	4.94	4.08
2 1/2"	9.25	15.50	6.69	10.16
3"	10.55	15.18	9.02	13.31
4"	10.55	15.81	9.02	13.31

ON-OFF	
SIZE	MODEL
1/4"	F88-TX-025/WEA1-XX
3/8"	F88-TX-038/WEA1-XX
1/2"	F88-TX-050/WEA1-XX
3/4"	F88-TX-075/WEA1-XX
1"	F88-TX-100/WEA1-XX
1 1/4"	F88-TX-125/WEA1-XX
1 1/2"	F88-TX-150/WEA1-XX
2"	F88-TX-200/WEA1-XX
2 1/2"	F88-TX-250/WEB1-XX*
3"	F88-TX-300/WEC1-XX
4"	F88-TX-400/WED1-XX

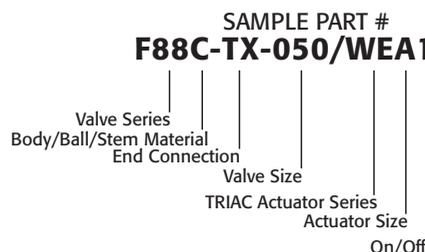
MODULATING	
SIZE	MODEL
1/4"	F88-TX-025/WEA2-XX
3/8"	F88-TX-038/WEA2-XX
1/2"	F88-TX-050/WEA2-XX
3/4"	F88-TX-075/WEA2-XX
1"	F88-TX-100/WEA2-XX
1 1/4"	F88-TX-125/WEA2-XX
1 1/2"	F88-TX-150/WEA2-XX
2"	F88-TX-200/WEA2-XX
2 1/2"	F88-TX-250/WEC2-XX*
3"	F88-TX-300/WEC2-XX
4"	F88-TX-400/WED2-XX

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

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.

*2-1/2" on/off assembly is not direct mount.
Dimensions above are for on/off assembly.



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

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

SUFFIX 2: Accessories
SUFFIX 1: Voltage/Accessory

HOW TO ORDER: Manual Valves

Series F88

1 Prefix	2 Valve Series
F Firesafe	88 3 Piece Direct Mount Ball Valve, Full Port

HOW TO ORDER MANUAL VALVES													
1	2	3	-	4	-	5	-	6	7	8-9	-	10	11
↓	↓	↓		↓		↓		↓	↓	↓	↓	↓	↓
F	88	C	-	TH	-	0150	-	X	X	X			

3 Body/Ball/Stem Material		4 End Connection	
Blank* Valve Series Standard (316SST)		TH NPT Ends	
A Alloy 20 Body, Ball & Stem		SW Socket Weld Ends	
C* Carbon Steel Body		BW Butt Weld Ends	
L* Low Carbon 316L Stainless Steel		EW 4" Long, Sch. 80, Extended Butt Weld Ends	
J* Low Carbon 304 Stainless Steel		TE NPT x 4" Long, Sch. 80, Extended Butt Weld Ends	
H Carbon Body /Hastelloy Ball & Stem		TS NPT x Socket Weld	
Q Carbon Body/Monel Ball & Stem		TB NPT x Butt Weld	
R 316 SST Body/Monel Ball & Stem		NE No Ends (3pc. Valves)	
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

5 Valve Size	6 Seat, Lining & Trim Materials	7 Special Designations	8 Additional Specials
0025 1/4" 0200 2"	X* Reinforced TFE Seats (RTFE)	X No Specials, Series Standard Handle	X No Specials, Series Standard
0038 3/8" 0250 2 1/2"	P* Virgin TFE Seats (PTFE)	G Gear Operator	O Oxygen Cleaned
0050 1/2" 0300 3"	U UHMWPE Seats	H Gear Operator with Lockout Plate	Z Special End Configuration
0075 3/4" 0400 4"	S* 50/50 STFE Seats	O Oval Handle (available on some)	V Vented Ball
0100 1"	C* 25% Carbon Graphite, 75% PTFE Seats (CTFE)	S Spring Return Handle (Direct Mount only)	E Bonnet Extension Lockable Handle
0125 1 1/4"	T* TFM™-1600 Seats	4 4" Lockable Stem Extension	D Degreased & Bagged
0150 1 1/2"	A* 50% SS Powder/50% TFM™-1600 Seats (STFM)		A Vented Ball, Degreased & Bagged
	M MG1241 Seats		B Vented Ball, Oxygen Cleaned
	Z PEEK Seats (Required 17-4 PH® Stem)		

* Firesafe Tested



OPTIONS:

9 Special Designation	10 O-Ring	11 Additional Specials
Blank No Designation, Valve Series Standard	Blank No Designation, Valve Series Standard	Blank No Designation, Valve Series Standard
X Multiple Option Designation	X Multiple Option Designation	B B7M Bolting
A 17-4 PH® Stem	2 Markez® Z1028	C CSA 3.16 Certified (F90/F88/93)
B XM-19 (Nitronic 50) Stem	4 Kalrez® 4079	E CE/PED Certified
C Duplex 2205 Stem	5 Chemraz® 505	M Marine Epoxy Coating
D Inconel® 718 Stem	6 Kalrez® 6375	
H Hard Coated (HMF) Ball	7 Perlast® G75M	
	9 Chemraz® 564	
	B Low Temp Buna	
	E EPDM	
	S Silicone	

Related Series

- **F88 Series** Firesafe 3-pc High Performance Ball Valve
- **83 & 8R Series** 3-pc Full & Regular Port Ball Valves
- **F83 & F8R Series** 3-pc Full & Regular Port Firesafe Ball Valves
- **88 Series Painless Stainless** SST Automated Packages
- **V8 V-Port** Control Valves



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Series F88

API 607
CERTIFIED

How to Order: AUTOMATED VALVE with Options

1 Prefix	
F	Firesafe

2 Valve Series	
88	3 Piece Direct Mount Ball Valve, Full Port

3 Body/Ball/Stem Material	
Blank* Valve Series Standard	
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	
T	NPT Ends
S	Socket Weld Ends
B	Butt Weld Ends
E	4" Long, Sch. 80, Extended Butt Weld Ends
M	NPT x Socket Weld
P	NPT x Butt Weld

5 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)
M	MG1241 Seats
Z	PEEK Seats (17-4 PH® Stem Required)

* Firesafe Tested

6 Valve Size			
025	1/4"	200	2"
038	3/8"	250	2 1/2"
050	1/2"	300	3"
075	3/4"	400	4"
100	1"		
125	1 1/4"		
150	1 1/2"		

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)**
6	Spring CW (6 springs)
H	Spring CCW (6 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		

8 Accessories/Options		Model no.
X	No Specials	
A	TYPE 4 Solenoid 120VAC	TVCS-X411-4N-A120
B	TYPE 7 Solenoid 120VAC	TV6-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	TV6-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
H	NEMA 4 Std. Enc.	APL-310N
Z	180° Operation	
1	HS1 High Speed Electric	
2	HS2 High Speed Electric	

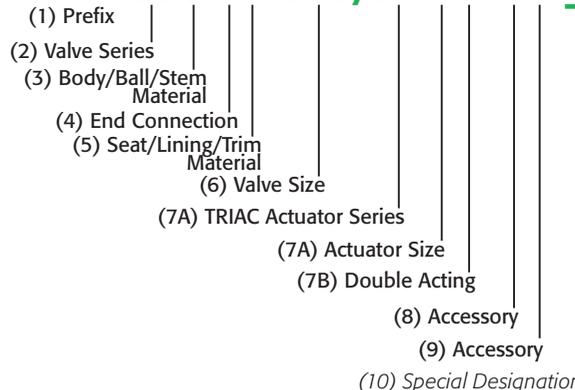
10 Special Designation	
Blank	No Designation, SST Stem
A	17-4 PH® Stem
B	XM-19 (Nitronic 50) Stem
C	Duplex 2205 Stem
D	Inconel® 718 Stem
E	CE/PED Certified
F	Viton® Seal for Pneumatic Actuators (0°F to 300°F)

Viton® is a registered trademark of E. I. DuPont de Nemours.
TFM™ is a trademark of Dyneon™, a 3M Company.

AUTOMATED VALVE

SAMPLE PART #

F88C-TX-050/3RDD-XX-



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